# THE BUILDER
## A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

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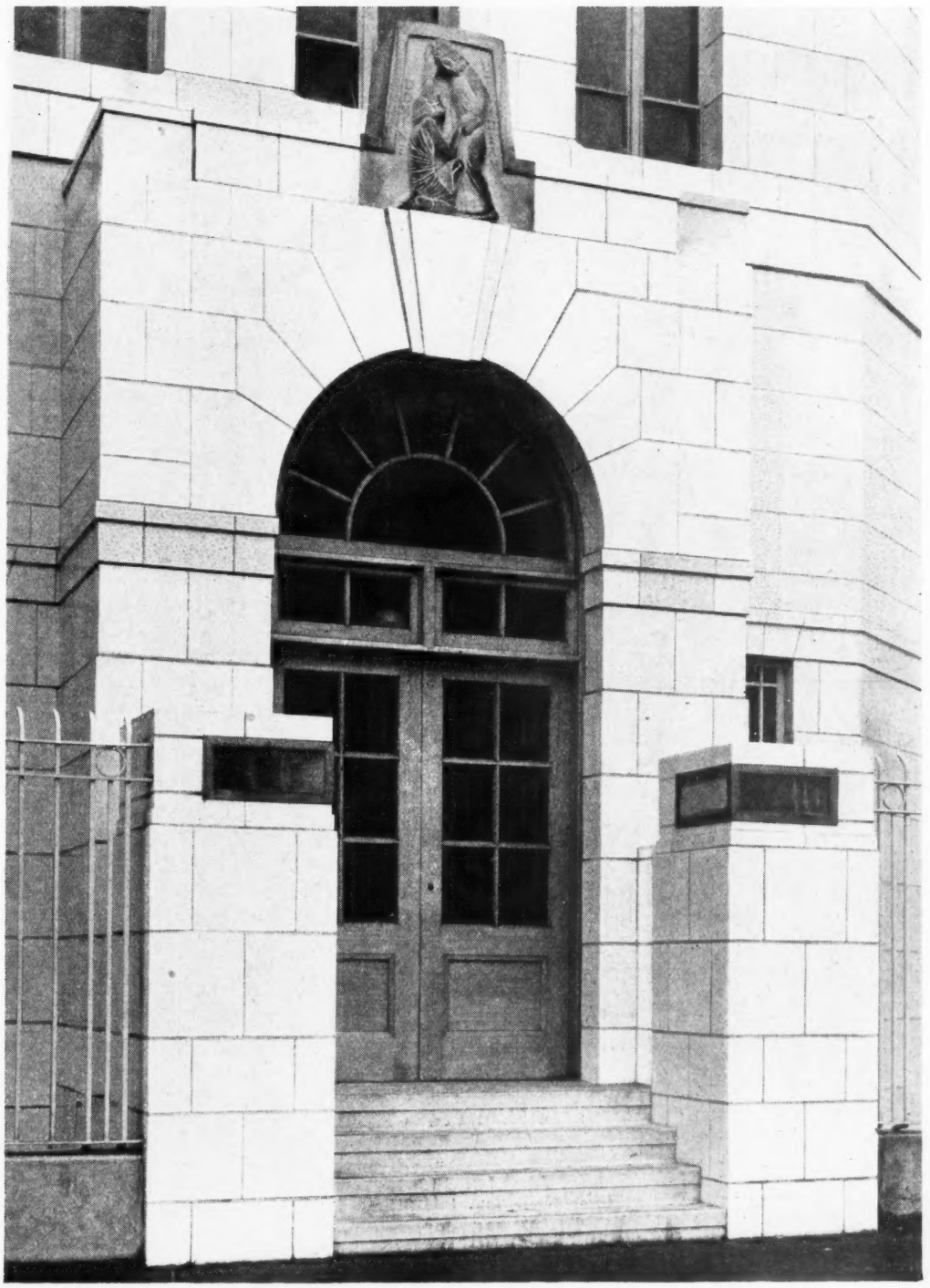


THE ROYAL LONDON OPHTHALMIC HOSPITAL, CITY ROAD, E.C. : New Entrance in Cayton Street.
MESSRS. CAMPBELL-JONES, SONS AND SMITHERS, Architects. Sculptured Panel by Mr. ERIC GILL. (See page 742).

## MEETINGS

SATURDAY, *April* 20.

*Guild of Bricklayers.* Fourth Annual General Meeting. At Birmingham. Visit to the New Central Fire Station, Corporation-street, 1.30 p.m.; and General Meeting at the Chamber of Commerce Building, New-street, 3.15 p.m.

WEDNESDAY, *April* 24.

*University of Liverpool Guild of Undergraduates.* Opening of the Extension to the Students' Union by the Rt. Hon. the Earl of Derby. 3 p.m.

THURSDAY, *April* 25.

*London Society.* Visit to the London Chamber of Commerce, E.C.4. 5.30 p.m.

*West Yorkshire Society of Architects.* Annual General Meeting. At the College of Arts, Leeds. 6.15 p.m.

FRIDAY, *April* 26.

*Birmingham and Five Counties Architectural Association.* Visit to Hospital Centre. Conducted by Mr. T. A. Lodge.

*Town Planning Institute.* Presentation to Mr. G. L. Pepler commemorating his twenty-one years' service as honorary secretary; and Mr. G. H. Jack on "Regulation of the External Appearance of Buildings." At Caxton Hall, S.W.1. 6 p.m.

MONDAY, *April* 29.

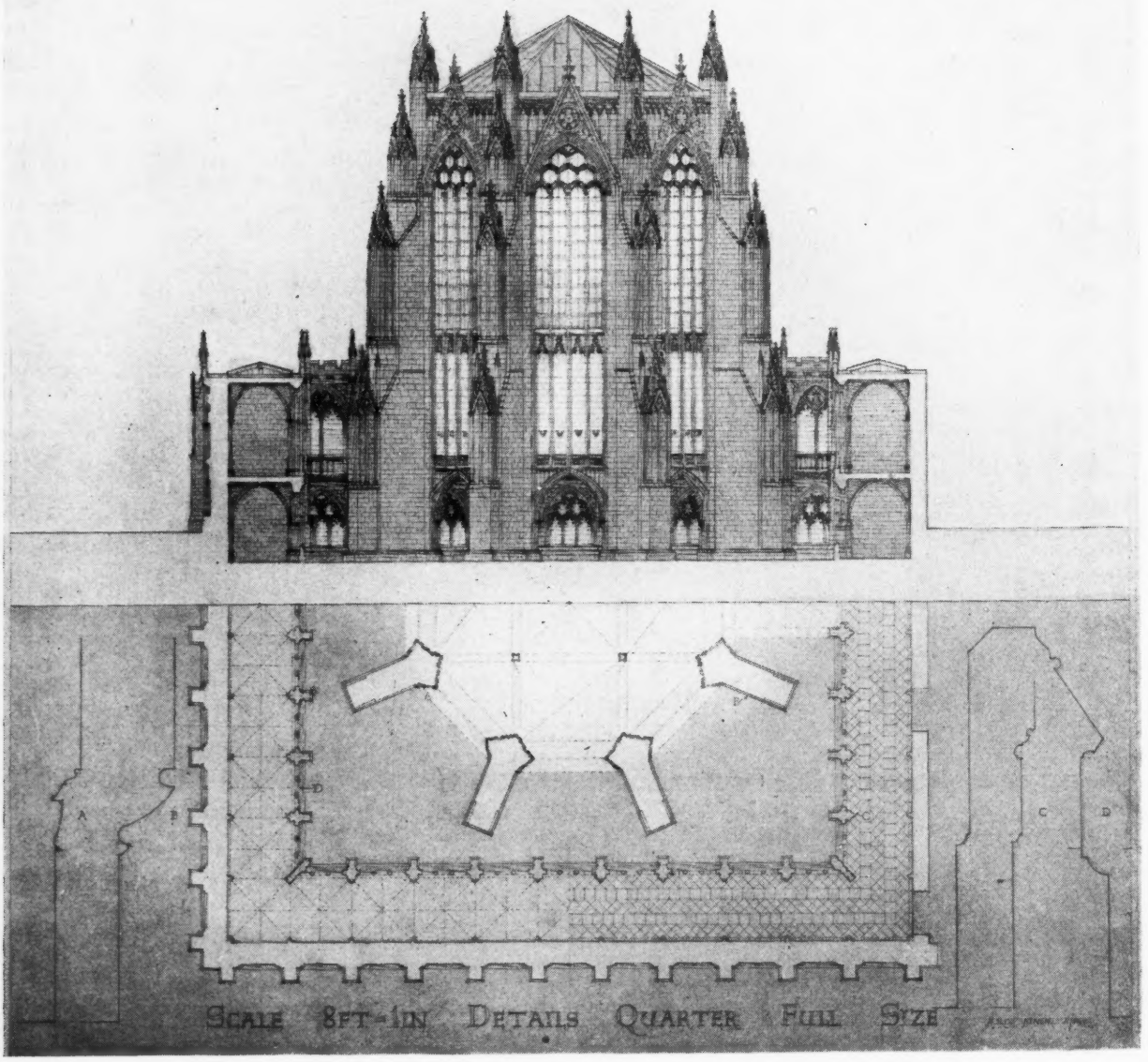
*Royal Institute of British Architects.* Social Evening. 8 p.m.

*Chartered Surveyors' Institution.* Messrs. Holroyd F. Chambers and Louis de Soissons on "Working-class Housing in Europe." 6.30 p.m.

# OLD ST PAUL'S CATHEDRAL LONDON

THE CHAPTER HOUSE AND SOUTH CLOISTERS

BEGUN IN 1332, WILLIAM DE RAMSAYE MASTER MASON




From a drawing by MR. R. H. C. FINCH, A.R.I.B.A. (the Bartlett School of Architecture).

(See page 728).

# PUBLIC OPINION

IT has been frequently the custom among artists to look upon the opinion of the general public as something so uninformed as to be of no real importance. To some extent this has been no more than a pose, because there are few artists who are indifferent to the plaudits of the multitude; and, further, if the purpose of the artist is not only to instruct but to give pleasure, surely the reaction of the public to his efforts must be something of very great importance. In architecture, this question is of equal importance, and we do well at times to lend a sympathetic ear to the opinions of those who have had no training either as architects or critics, but who, nevertheless, have every right to express an opinion.

In a recent Sunday paper there was illustrated a municipal building recently completed, with some very warm praise of its architectural character. The commentator actually remembered the architect, though forgetting his name, and the mere fact that a building and its designer should be considered of sufficient public interest to merit a paragraph among the week's news is a significant fact. It shows that architecture is regaining some of the public interest which it appeared to lose during the dull days of the nineteenth century. A writer in a popular weekly paper may not himself be a typical member of the public, but it is at least his job to know what is in the public mind, and what will be interesting in a popular sense.

Having met this instance, striking because still so rare, we may spend some thought upon the object of comment. The building was one designed in what is generally known as the "Traditional" style, whatever this may mean. We might perhaps describe it as one using the architectural language familiar to all the highly civilised periods of Western Europe. It was not a transmogrified interpretation of a classic temple, nor was it, on the other hand, an attempt to be new at all costs. There were such familiar things as columns and cornices and classic consoles, used without affectation; but for the most part it was a clean and unaffected exercise in handsome building on sensible lines. There are still a large number of architects of standing who would look upon this manner of design as eminently suitable to the times and expressing a sensible approach to a problem. This school of thought is not very vocal, for if one were to judge by the æsthetic beliefs committed to print by those most anxious to see their utterances published, we should be forced to the conclusion that all this sort of thing was sheer humbug, and no better than an obstruction standing in the way of progress. We know, however, that, far from this being the case, there is not only a clear professional majority in favour of an unostentatious carrying on of a tradition, which has at times flickered like the flame of a candle, but that the average man in the street still understands this language more thoroughly than any of the Continental importations which some would thrust upon him.

It is not always that public opinion is right in its judgments, and many artists have been injured through popular ignorance. Sometimes praise is given for a superficial art which "gets us nowhere." In the other cases, the restraint of good art is mistaken for barren incompetence. But in the general run of cases, if we are quite honest and frank with ourselves, the man in the street is more often right than wrong. It is not often that anything he decides is admirable has no merit, though it is more frequent that some of the things he condemns are judged unjustly through lack of trained insight. These things we must put up with, but we need not, because of them, decide that the public point of view is of necessity from the wrong angle. There is a wide difference between playing to the gallery and sensibly feeling the pulse of the healthy-minded public. We believe that we should suffer very much less from the hasty, ill-considered æsthetic standards if our architects generally were more sensitive to the opinion of the lay public. It is indeed an appalling state of affairs if our architects are to build in a manner which is repugnant to the eye of the public, and no amount of theorising or logical analysis will bring order into a system based on such ideas.

We believe that something of this kind accounts for the controversy which has gathered round the administration of the "Amenities" clauses of the Town and Country Planning Act. There have been many cases in which architects have produced designs in a certain manner, of which the average local council will not approve, and there is a temptation to say that if the trained architect disagrees with the untrained councillor over a matter of architectural design, the architect must be right. We believe, however, that the cleavage of opinion within the profession over matters of design should not be kept entirely to the committee room. It is no new thing for architects, or for that matter doctors, to disagree upon technical matters. There is no harm in the public knowing of these differences of opinion, and the profession is less likely to suffer if the public is aware that there is a clear majority in its ranks in favour of a manner of design which does not shock the habitual judgment of the man in the street. If we could analyse a little more clearly the manner of building which we believe fits in with the work of a competent majority and with the opinion of the public, we might perhaps liken it to the work of the eighteenth century. We would have no desire to see a literal repetition of eighteenth-century architecture, but it is necessary to call attention to two striking facts. The first is that the orderly lay-out of the eighteenth-century street front fits in most happily with the average requirements of the present day. The second is, that the vigour of the English tradition began to lose force soon after the last days of the eighteenth century, since when the architectural world has been torn asunder by many misguided revivals and theories in design.

There is, therefore, some real incentive to attempt to pick up the threads of a weakening tradition where they were last lost, and if we can believe the evidence of our own eyes it is something like this that is being attempted by a great number of architects whose work is regarded to-day as of the best. Many of these men would not, perhaps, recognise this as their incentive, but there is no doubt that among the most clear-headed of our designers there is a tendency to revert to the simple dignity and at times rich handling of their subjects in which the Georgian architects excelled.

We shall be surprised if the bulk of the work on the walls of the Academy this year is not expressed in some such language as this, and we shall then take it not as another instance of the stubborn conservatism of the Royal Academy, but as the clear sign of a fact. And the essence of this fact is that the English architect, like the Englishman in all walks of life, is prone to work out his salvation in a way essentially English, and therefore essentially sensible.

This is no blatant exaggeration of nationalism but the expression of faith in those national characteristics which have gathered round this small island an Empire greater than any which has gone before, or is likely to appear in the future from any other source. Within the bounds of common-sense there is a wealth of wisdom contained.

# NOTES

**A Complaint about Ugliness.**

THE editor of the *Countryman* had been taking a holiday in the Isle of Wight, and gives some brief account of his impressions in an article in the *News Chronicle*. Amongst his observations we select the following: "A regional planning committee is badly needed. Not only builders, but a motley company of men calling themselves architects, have done their worst in town after town and village after village." All this is very true and disappointing, and, as always, we are driven to the same conclusion that it is marvellous and almost beyond explanation that something so obvious to many people must be hidden from others. Otherwise, why does ugliness grow? Does everyone think that his own house—probably designed by himself—is in good taste, while that of his neighbour is ghastly and ought to be prevented? In an atmosphere of ignorance and self-complacency ugliness will prevail.

**The Penalty of Ugliness.**

IN trying to answer these question, we were tempted to put the double question: Why does ugliness grow, and why does it prosper? It would seem that the two things must have some connection. Not everyone who builds a house has a personal interest in the prosperity of what was once a beautiful village or town. He may think that he builds for himself alone; he may believe in the principle that "the tripper is the other fellow." But for those who depend for prosperity, in a holiday resort favoured by nature, upon the number of visitors, it must be beyond all doubt that architecture is an essential factor in their problem. The immediate effect may not be obvious, but sooner or later the spoliation of any place through its architecture and amenities will be reflected in the diminished revenue. And that is a just penalty. It seems to us, therefore, that the mystery of the existence and the growth of ugliness is best explained, not by those who are aware of it, and flee from it, but by those who cater for a public supposed to be insensitive to beauty.

**The Negative View.**

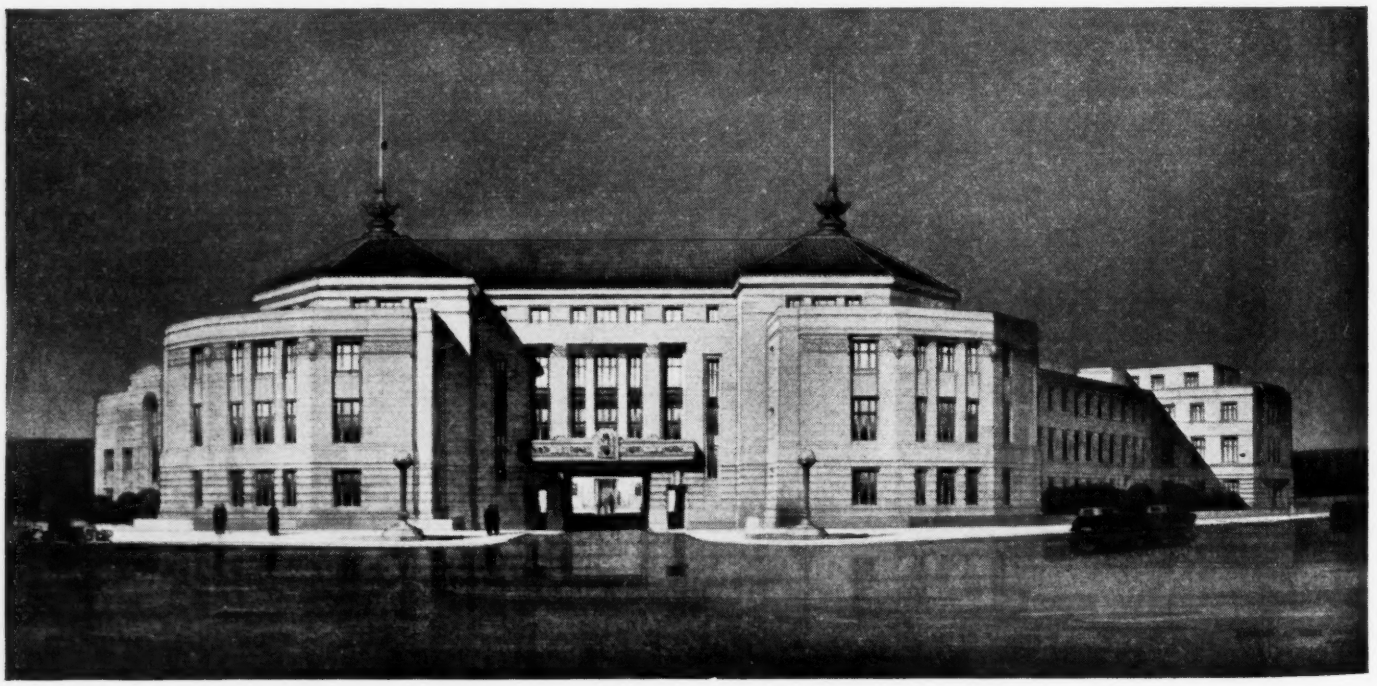
WE admit that we have outlined a negative view of beauty, but a positive view of ugliness—the penalty touching the pocket. But, in the absence of a recognised code of good taste and good manners, we wonder if there is any other real remedy. A great deal of humbug about ugliness and good taste is eliminated when we face the fact squarely that we congratulate, and commend, any public authority for their wisdom in securing the best architectural services for their various schemes, but we express the hope that the particular town or village will have its reward. There may be such a thing as Art for Art's sake, but in an age such as ours, that has been immersed in the study of political economy for the past fourteen years, there is an art that can be understood by everybody when beauty carries its reward and ugliness its penalty.

**The Granite Monument Competition.**

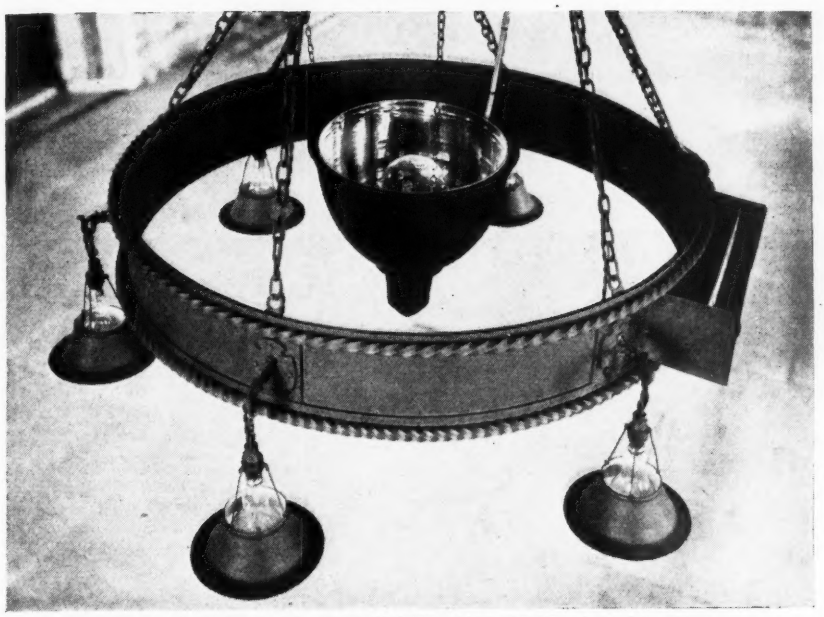
A MONUMENT to commemorate the 25th year of the reign of His Majesty King George the Fifth was the subject set by the Cornish Granite Masters' Association, in a competition which has been conducted by the Architectural Association. It is a good thing to give young architects the opportunity to test their imagination and designing ability and the effect of their school training in open competition. This competition was an open one, but we should like to see one confined to the schools only. A good number of entries were received, and, as with most competitions, there is a percentage of good designs, a percentage of commonplace, and a percentage of designs which take eccentric form and whose meaning or motif is not clear to most people without explanation. Designs should be understandable at a glance by all. Mr. Braddock's prize design is one of the best submitted for general form and design. The detail is bold and recognises the material. All elevations are of equal merit, and with their strong vertical lines make an impressive memorial. The south elevation carries a figure of His Majesty, with a commemorative tablet. At the top of the monument are two vertical flood lights, which would make the monument a landmark at night. This design embodies a touch of the modern spirit, and is devoid of the eccentricity which is common in many modern conceptions. The design of Mr. A. S. Morris, the joint winner with Mr. Braddock, has a good motif. It does not stand out in the dominating manner of Mr. Braddock's, but it is scholarly, with less of the general or recognised form of monument character. It would be in keeping with its surroundings, and not overpowering.

**Lighting in Westminster Hall.**

ARISING out of proposals for decorations to commemorate their Majesties' Silver Jubilee, a scheme for the permanent floodlighting of the roof of Westminster Hall is on the point of completion. Not everyone, it is possible, will agree in principle



NEW ADMINISTRATIVE OFFICES, BOROUGH OF WANDSWORTH: Main Entrance Approach.
MR. EDWARD A. HUNT, F.R.I.B.A. (Messrs. William and Edward Hunt, FF.R.I.B.A.), Architect. (See page 742).



THE FLOODLIGHTING OF WESTMINSTER HALL ROOF : A Lighting Fitment.

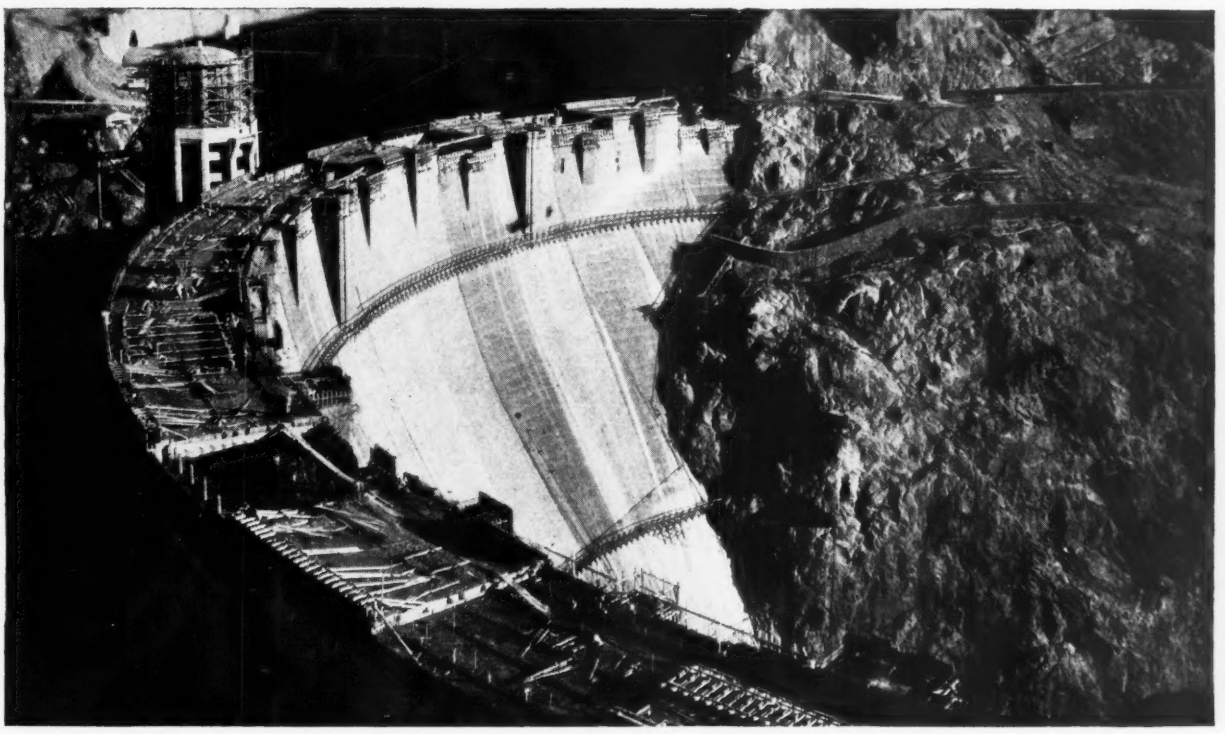
with the proposal, since the roof is now reinforced with steel rods (a necessary step taken at the time of the restoration by the late Sir Frank Baines). It has been stated that as Westminster Hall roof has about it that quality of the mysterious not infrequent in mediæval structures, added artificial lighting is not desirable. Be that as it may, the final effect will be the true test. The manner in which this has been done is as follows : the original hanging fittings, of which there are twelve, consisted only of the band and six hanging lamps. Each fitting has now been equipped (see illustration) with one projector throwing a beam upwards and with another which illuminates the lower part of the roof. The resulting effect is one of additional lighting of low intensity.

**Water Colours and Mural Paintings.**

At the Arlington Gallery are now on view a number of water colours and mural decorations by Mr. Louis Davis. Running through all Mr. Davis's drawings is a strong poetical feeling, and his colour schemes, in whatever subject he attempts, are rich and harmonious. As an example, No. 4, " Golden Autumn, Eastcote," is an evening effect landscape in golden browns, with distant blue hills, which make the picture pleasing and restful. No. 50, " The Ferry House, Rickmansworth," is another satisfying drawing, the colour scheme being red, green and gold, with the ferry house reflected in the water. No. 60, " St. Margaret at the Altar " (part memorial to the late Crown Prince of Sweden), is a black and white cartoon, having a strong decorative character and pattern, the same qualities being found in other designs of this nature in the exhibition, notably the subjects from Malory's " Morte d'Arthur." Mrs. Davis contributes pleasing hand-coloured prints, charming in design and colour.

**The Boulder Dam, Colorado.**

One of the greatest of public works schemes in the world has just arrived at completion — the Boulder Dam project, Colorado, U.S.A. The object of this dam—which will turn the Boulder Canyon and valley into a vast reservoir over 100 miles long—is to provide irrigation. The illustration given below shows the concrete work at Boulder City end as it stood on February 26 last. The scheme, which was sponsored by the U.S.A. Department of Works, has cost many millions of pounds. The work of concreting raised a good many problems, not the least being that of " water gain " (*i.e.*, the entrainment of water beneath the lower surfaces of aggregate particles). It has been found that the use of coarse aggregate consisting of very large particle sizes tends to increase " water gain," and examination of sections cut from hardened concrete at the Boulder Dam has shown the presence of large voids beneath the pieces : these are attributed to the original presence of entrained water and its subsequent replacement by air during the drying out. The Building Research Station, which has studied the phenomenon, states that " the presence of such voids may be a primary or contributory cause of permeability and of leakage in concretes, particularly in dam construction."



THE BOULDER DAM, COLORADO, U.S.A.

(See this page).

# GENERAL NEWS

### Building Trade Wages.

The executives of masters and men reported on April 17 to the National Joint Council for the Building Industry upon measures which had been put forward by the special committee appointed by the Council to make recommendations.

### Newbattle Abbey, Scotland.

The Scottish branch of the British Institute of Adult Education has under consideration a scheme for the conversion of Newbattle Abbey, the historic residence of the Marquess of Lothian, into a Scottish college for adult education. The Marquess has made a gift of the Abbey for this purpose. The estimated cost of the conversion scheme is £12,000.

### Lord Halifax Memorial, York Minster.

It was announced by the Church Union that a design on broader and more striking lines than originally suggested has been submitted in connection with the reredos and new high altar in York Minster to form a memorial to the late Lord Halifax. The new scheme has been submitted to the Dean and Chapter by Mr. Walter Tapper, R.A., 4, Dean's-yard, S.W.1, consulting architect to the Minster, and the sum aimed at is £6,000.

### Appointments.

Mr. P. J. Robinson, M.Eng., M.I.Mech.E., M.I.E.E., city electrical engineer, Liverpool, is appointed consulting engineer to the Corporation in relation to the work of construction of the Clarence Dock Power Extension.

Mr. C. S. Bainbridge has been appointed Borough Engineer and Surveyor to St. Pancras. He will take over his duties on October 1 next.

Mr. Gordon F. Griffiths, deputy surveyor to the Keighley Council, has been appointed Borough Surveyor at Port Talbot.

### London Dock Extensions.

Port of London Authority is to seek Parliamentary powers to spend over £1,750,000 on a five years' docks improvement scheme. The jetties at the Royal Victoria Docks are to be swept away, and 6,000 ft. of deep-water quayage constructed. There are to be several double-story transit sheds, new berths with electric cranes, and the depth of water will be increased from 28 ft. to 31 ft. A new quay 5,350 ft. long is to be built on the north side of the Royal Albert Dock, and the depth of water will be increased from 29½ ft. to 34 ft.

### Appointments Vacant.

L.C.C. invite applications for post of assistant on staff of chief engineer and administrator of housing development schemes. Commencing salary £1,000. Application forms obtainable on sending stamped-addressed foolscap envelope to Chief Engineer, County Hall, S.E.1. To be returned by April 26.

States of Guernsey require temporary draughtsman. Salary £5 to £6 per week. Applications to States Supervisor, States Office, Guernsey, Channel Isles, by April 30.

### Jubilee Decorations at Ludgate Hill.

Four first and second-year students of the Royal College of Art are executing, as their contribution to the Jubilee celebrations, two facades to mask the railway bridge at the bottom of Ludgate Hill. These are cut out in plywood and painted. Each facade measures about 55 ft. long by about 10 ft. deep at the salient points. The central feature in one is the Royal Arms, supported by Neptune and Britannia, with mermaids in a setting of waves and clouds at the two ends. The other façade shows St. George and the Dragon.

### Pershore Abbey.

A scheme to rearrange the south transept of Pershore Abbey, where a very ugly pitch-pine screen right across its south end obscures a most interesting wall-arcade of early twelfth century work, and to replan the entrance to the eastern chapel of the north aisle, has been prepared by the consulting architect to the fabric, Mr. Francis B. Andrews, F.S.A., F.R.I.B.A., and has been unanimously approved both by the Parochial Church Council and the Bishop of Worcester's Advisory Committee. The cost of this work, together with other repairs and improvements, is estimated at about £1,000, and the "Friends of Pershore Abbey" are committed to this expenditure. In addition, an extra cost of £500 is required to restore the choir roof consequent upon discovery of the activities of the death watch beetle.

### The late Bainbridge Reynolds.

We regret to record the death of Mr. William Bainbridge Reynolds, at the age of 80. Originally trained as an architect, he was articled about 1870 to J. P. Seddon for five years, and entered G. E. Street's office during the building of the new Law Courts. He afterwards turned to the design of architectural metal work, establishing workshops of his own, and training a staff of skilled craftsmen. His craft was not confined to metal work, but included stained glass, embroidery and ivory. His knowledge of ecclesiastical forms, ceremonies, furniture and ornaments was vast. Mr. C. F. Annesley Voysey, a friend for over sixty years, writes of him: "His personal charm was marked by gentleness, courtesy and manliness. He was intensely musical, and much more thoughtful than talkative. One often wished he would say more, because of his charming voice."

### A New Patented Map of London.

We have received from the Lightning Cities and Road Map Co., Ltd., Halton House, 20-23, Holborn, E.C.1, a copy of their new "patented Plan of London and Suburbs." The map is folded and indexed so that any place indexed can be located within a few seconds without stretching the map out. The index is comprehensive, and the map printed in five colours by the Ordnance Survey. We are informed that this map, the price of which is 4s. 6d., is to be followed by sectional maps of the whole country on the same plan.

# CORRESPONDENCE

### A Burden on Industry.

SIR,—While the avowed object of the Government is to stimulate industry and promote employment, taxation is helping to defeat that aim. The duty of 8d. a gallon on industrial light hydrocarbon oils is a case in point. Imposed because of a fear that motorists might evade the petrol duty if white spirit were exempt, the tax has now become a burden on production, handicapping several industries for no object beyond a revenue which could be obtained with less loss elsewhere.

The Government have refused to remit this duty because they fear evasion. The fear is unfounded, for neither the Irish Free State nor Germany has found any difficulty in exempting the two commodities included in the light hydrocarbon oil range—white spirit and turpentine—and in these countries our manufacturers are placed at a great disadvantage.

Many industries are hard hit by the tax. I need mention only the paint, colour and varnish, the dyeing and cleaning, the india-rubber, the chemical, the white spirits, the wallpaper and boot and floor polish to show how and in what directions the duty is a burden. The repeal of the duty would diminish manufacturing costs and stimulate industry. And there is a special propriety in the appeal for a remission of the duty this year. The industries using light hydrocarbon oils produce materials which enter into the costs of housing schemes. At a moment when vast building operations are on foot, it is surely timely that everything should be done to diminish costs.

CHARLES EMMOTT
(M.P. for Springburn, Glasgow).
VICTOR RAIKES
(M.P. for S.E. Essex).

House of Commons,
London, S.W.1.

# COMPETITION NEWS

### Darlington Town Centre.

In the competition for a town centre, limited to six firms of architects, the assessor, Mr. H. V. Lanchester, F.R.I.B.A., M.T.P.I., has made the following awards:—1st, Mr. E. Berry Webber, A.R.I.B.A., 42, Gordon-square, W.C.1 (£100): 2nd, Messrs. Adshead and Ramsey, FF.R.I.B.A., 46, Great Russell-street, W.C.1 (£75); 3rd, Mr. Louis de Soissons, F.R.I.B.A., Blue Ball Yard, St. James's-street, S.W.1 (£50).

The winning design is illustrated in this issue.

### A Monument in Granite.

In the prize competition organised by the Architectural Association for the Cornish Quarry Masters' Association for a design in granite—"A monument to commemorate the twenty-fifth year of the reign of His Majesty the King"—it has been decided to award two prizes of £20, and one prize of £10, instead of awarding one prize of £50. The joint winners of the competition (£20 prize each) are Mr. Thomas Braddock (design 31), registered and chartered architect, 18, Homefield-road, Wimbledon, S.W.19, and Mr. A. S. Morris (design 49), Romney House, Marsham-street, S.W.1. The £10 prize was awarded to Mr. D. E. Harrington, A.R.I.B.A. (design 60), 3, Brunswick Mansions, Handel-street, W.C.1.

Hon. mentions were awarded as follows:—Mr. J. V. Worsnip, A.R.I.B.A. (Sheffield), Mr. Stanley H. Smith, A.R.I.B.A. (Southgate), Messrs. Vine and Vine, AA.R.I.B.A. (Wood Green), and Mr. A. H. H. Jenkins (Notting Hill Gate).

The list of additional designs under consideration in the final stages of assessing were:—Mr. F. W. Davey (S.W.10), Messrs. P. N. Taylor and A. McDonald (Bristol), Mr. W. R. Helm, A.R.I.B.A. (Stoke), Mr. T. F. Winterburn, A.R.I.B.A. (Kensington), and Messrs. C. S. R. Oakes and A. M. Allen, A.R.I.B.A. (W.C.2).

The assessors were Hon. Humphrey Pakington, Messrs. C. Lovett Gill, C. H. Holden and Howard Robertson, FF.R.I.B.A., with Mr. M. L. Weatherall. The designs may be seen at the Architectural Association, 34-36, Bedford-square, W.C.1, from April 24-26.

The joint first premiated designs are illustrated in this issue.

### Colleges of Technology, Newcastle-upon-Tyne.

As a result of advertisements circulated throughout the country for an architect for the new Colleges of Commerce and Technology, there have been 25 applications. A short list of the following five architects has been selected for interview: Messrs. Bradshaw Gass and Hope, Bolton; Messrs. Cackett, Burns Dick and Mackellar, Newcastle; Mr. C. S. Errington, Newcastle; Messrs. Marshall and Tweedy, Newcastle, and Messrs. W. and T. R. Milburn, Sunderland.

### New Town Hall, Greenwich.

Greenwich Corporation have selected a suitable site for the erection of a town hall and are to invite certain selected architects to submit plans.

### Municipal Buildings, West Hartlepool.

The T.C. is to obtain designs from competitive architects for the erection of new municipal buildings on the Victoria-road site, which was acquired for this purpose some years ago. Prizes of 100 guineas and 50 guineas are to be awarded.

### Cottage Hospital, Seaton, Devon.

A site is proposed for a Seaton and Beer Cottage Hospital, north of Homer-lane. The Building Committee recommend the offering of a prize for the best design for the hospital.

**CURRENT COMPETITIONS**

| | Particulars published in "Builder." | Sending in date |
|---|---|---|
| Laying-out an area of Central Croydon as extension of the Civic Centre. Dr. T. Adams, F.R.I.B.A., assessor. Premiums of £500 and £350. Conditions, dep. £1 1s., from Town Clerk, Town Hall, Croydon ..... | Nov. 9 | April 30 |

# PRESENTATION OF THE ROYAL GOLD MEDAL

THE Royal Gold Medal was presented by Sir Giles Gilbert Scott, P.R.I.B.A., to Mr. W. M. Dudok at a meeting of the Royal Institute of British Architects held on Monday evening. Before making the presentation, the President spoke as follows: "Tonight we are assembled to honour the recipient of the King's Gold Medal. This, the most coveted distinction open to our profession, is, as you know, awarded by His Majesty the King, on the recommendation of the Council of the R.I.B.A., to some distinguished architect who has designed or executed a building of high merit. Many distinguished names are inscribed on this honourable roll, and I am proud to-night to be entrusted with the task of presenting this medal to so distinguished and fine an artist as Mr. Dudok, of Holland.

"It may be difficult to assess the permanent value of contemporary artistic work, and artists are but poor judges, for we are so keen on our own particular aspect of art expression that we can see no quality in any expression that does not fall within the somewhat narrow boundaries of our own individual tastes. Modernists and Traditionalists can see nothing in contemporary efforts that are not expressed in the particular form that they themselves favour. The broader and wider vision that greets with joy any fine expression of art, regardless of style, fashion or formula, is curiously rare among artists. They develop a singular rigidity of appreciation that excludes so much and accepts so little that it is not surprising to find how often contemporary artistic opinions fail to agree with the verdict of posterity, for posterity, having its own contemporary squabbles, can afford to take a big view of work of a past period and judge it impartially, unfettered by temporary enthusiasms that warp judgment.

"Mr. Dudok has accepted the modern form of architectural expression, and revelled in its simplicity and contrasts. The greatest contribution of the modern school to architectural development seems to me to be its healthy reaction to simplicity and its elimination of meaningless 'twiddly-bits.' I attach greater value to this quality of simplicity than to the much-talked-of use of modern materials, which usually means using old materials in a new way and for purposes for which they are entirely unsuited.

"Mr. Dudok's work, though simple, is a great deal more than merely negative, and here he excels a great many of his contemporaries—he is not content with purely negative, stark, mechanistic expression, he is no harsh robot, cruel and terrifying in functional expression; he embodies in his work a human quality that we all appreciate, even though it may be the fashion among some extremists to attempt to eliminate this quality from art and even from life. This quality—call it feeling, poetry, sentiment, romance, or what you will—cannot be eliminated from human nature; it will continue, as it always has done, not only to influence, but even to dominate human destinies and artistic expression; and all efforts by the extreme mechanists, either artistic or political, to reduce the human individual to a cog in a vast machine are doomed to failure—Nature will continue relentlessly on her way, smiling at our puny efforts to bring her to heel.

"I remember listening to Mr. Dudok at the Architectural Association, when he gave us a delightful talk, illustrated with lantern slides, of his work, and he drew attention to certain features he had used, such as arches and thatched roofs, and he said: 'You may be surprised that I, a modern architect, should use these things, but I use them because I like them.' To me that seems a very good reason, indeed the best of reasons.

"Mr. Dudok's work shows what can be accomplished with complete simplicity. It is not an easy task, this; everything must be just right if anything more than a merely negative result is to be obtained. The duffer cannot 'get away with it.' Like good, simple tailoring or dressmaking, where everything depends upon 'cut,' it demands a sensitive feeling not possessed by all, and it cannot be successfully accomplished by the mediocre practitioner. It requires an artist, such as we have the pleasure of honouring here to-night.

"Mr. Dudok, before presenting this medal on behalf of His Majesty the King, may I, on behalf of the Royal Institute of British Architects, congratulate you on your fine architectural achievements, and on behalf of your many friends and admirers in this country may I express to you not only our appreciation of what you have done to advance the cause of fine architecture, but our appreciation of what you are, and we welcome you here not only as a fine artist but as a welcome guest and friend."

The President then invested Mr. Dudok with the Royal Gold Medal, amidst the prolonged applause of the assembled company.

Mr. Dudok, in acknowledging the presentation, said: "It is not only a beau geste, but

MR. W. M. DUDOK.
ROYAL GOLD MEDALLIST, 1935

a fine tradition that your Sovereign, at the recommendation of the Council of the Royal Institute of British Architects, from time to time awards the highest architectural honour to a foreign architect. In this tradition lies the recognition that the field of art is a spiritual field unrestricted by natural frontiers, even when these are so wide as those of the British Empire. Within this spiritual sphere the workers feel themselves allied to each other, for, in spite of individual differences, there is, in all creative natures, a characteristic similarity in their life-aim; an artist lives in the first place for his work. It is consequently with feelings of deep gratitude towards you, highly esteemed colleagues, who have paid this tribute to my work that I feel the need to thank you for your recommendation and to express amongst you my appreciation that His Majesty the King has been graciously pleased to give his royal sanction to your proposal.

"What a multitude of thoughts this golden symbol arouses! In the first place, may I, without conceit, see in this that I have not been entirely unsuccessful in expressing in my work the emotion which inspired and led me during its creation? To whatever extent the value of this work, as materialised achitectural expression, may have remained below what I had hoped to reach, it has nevertheless been a suggestive expression of the joy which filled me in my best moments; it has proved to be strong enough to arouse the same joy in others, and may we not say that, in thus creating, the artist has already fulfilled his mission?

"This joyous thought is not the only one which this award brings to my mind. Even this medal has its reverse, for it is precisely in such happy hours that the voice, which every artist knows, the never-silent voice of self-criticism, speaks to us louder and more sternly. I ask myself, for instance, to what, in fact, do I owe this decoration? I ask myself whether the significance of my work warrants this distinction, which places me in the ranks of illustrious colleagues. I must confess that I find no answer to this question, which, on the one hand, would respect your choice, and on the other satisfy me from every point of view.

"You will, I hope, not accuse me of chauvinism if among these illustrious names two figures more especially rise before my mind's eye, two of my compatriots, Cuypers and Berlage, names which are inseparably connected with the revival of architecture which has fascinated us all so much and in which we have all since participated. It is far from me to create the impression that I would attribute a rôle of special importance to this revival in the Netherlands. That would not fit in with my vision of art in which national frontiers are only of subordinate importance, and it would, above all, overlook the magnificent pioneering work of your Ruskin, your Morris, and of so many others. But I may certainly point out that my country has, in Cuypers and Berlage, possessed very noble regenerators, who have filled and enriched a long life with rare energy. This is not the place to expand on their importance; your Institute has known and honoured both these men, and you know as well as I do on what just grounds; but I owe them this word of recognition and gratitude as a younger compatriot who, with so many others, has undergone the beneficial influence of them both. It is particularly to these two pioneers that the Netherlands owe an architectural life full of devotion, full of submission; and if I am now selected by you to receive your highest architectural honour, you would relieve me of a certain feeling of oppression if you will allow me to see in this award not so much a personal appreciation as an appreciation of what we younger ones in Holland, who, as you see, are, alas! already grey, have collectively created, each with the variety of his personal talent; an appreciation, therefore, of the architectural level which has been attained in my country.

"Personally, I would see in this award your sympathy for my architectural conviction that, though in our architecture the efficient compliance with practical requirements guides and determines our work, this work only rises to the level of art if this matter-of-fact efficiency is visibly ennobled by a high-souled thirst for beauty—a beauty which in our day of new materials, of a new attitude towards life and new aims, can exhibit fresh and striking facets, but which nevertheless is based on the eternal laws of the scarcely definable harmony of proportions."

Jonkheer Maitre R. de Marees van Swinderen (H.E. the Minister of the Netherlands) said the people of the Netherlands would feel extremely proud at the distinction bestowed upon their countryman, Mr. Dudok. Speaking personally, the present occasion was one of the most interesting and pleasant of his 22 years' representation of his country at the Court of St. James.

The Hon. Humphrey A. Pakington said he thought it could be said that the Architectural Association had had something to do with the recognition of the work of Mr. Dudok. He knew he was voicing the opinions of Traditionalists and of Modernists throughout this country when he said that no architect living was more worthy of the honour which had just been conferred than was Mr. Dudok.

Mr. Percy E. Thomas and Mr. F. R. Yerbury also paid tribute to the work and influence of the Medalist.

# OLD ST. PAUL'S

## A RECONSTRUCTION

By R. H. C. FINCH, A.R.I.B.A.

### Foreword.

THE present reconstruction of Old St. Paul's Cathedral, London,* was begun in the spring of 1931, and pursued at intervals during the four subsequent years. The idea of attempting such a work was suggested by the fact that the subject was largely unexplored. The Cathedral was a very great one, worthy to rank with the finest achievements of mediæval architecture. All England had contributed to the expense of its building, and its fame was noised abroad throughout the length and breadth of Europe.

It may be a matter of surprise to some that it has been possible to reconstruct the Cathedral in such detail, as it is popularly assumed that with the Great Fire of 1666 all record of the old Cathedral was lost. In reality, however, much material exists on which to base a reconstruction; it only required to be compared and sifted.

The written account which accompanies the drawings has had to be curtailed owing to exigencies of space. At a later date, however, it is hoped to publish the work in the form of a book with an adequate bibliography giving in detail the many sources of information on which this present reconstruction is based.

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Of all the throngs that daily pass under the shadow of St. Paul's, few know anything of the great Cathedral which once occupied the site. Yet the old Cathedral was a masterpiece of building, one of the greatest achievements of mediæval architecture. Its wonderful spire rose high above the City. It was a mausoleum, as the Abbey is to-day. It was the centre of the busy life of London. At Paul's Cross men gathered to hear of political events, and in stormy and tempestuous times the harangues and sermons there delivered had high political importance.

To endeavour to make a reconstruction of the building by collecting and sifting the extant evidence and by discussing the views of modern writers, to trace its architectural history, and to say something of the chief events most intimately associated with it, is a difficult but most interesting task.

Of the buildings which have successively stood upon the site, the first of which we have any certain knowledge is the Saxon Cathedral, which perished by fire in the last year of William the Conqueror's reign. It may have had predecessors, either Pagan or Christian. From the discovery of pottery and glass and ox-heads on the site it has been inferred that during the Roman occupation there was a heathen Temple of Diana (*vide* manuscript notes of John Conyers, apothecary, at the White Lion, Fleet-street, 1674-9, British Museum). Such speculations may be probable enough; but it is with the foundation of the Saxon Cathedral in the early years of the seventh century that actual history begins.

It was in the year 597 that St. Augustine landed in England, and proceeded to convert Ethelbert, King of Kent. It had been intended by the Pope that London should be the Primate's See; but Canterbury, as being the capital of Ethelbert's kingdom, was preferred. In 604, Mellitus and the second group of missionaries came; and Mellitus was appointed the first Bishop of London.

The only one of Ethelbert's vassals who had followed his example by becoming a zealous convert to the new religion was his nephew, Sæbert, King of Essex; and the two kings co-operated in the foundation of St. Paul's as the Cathedral of Bishop Mellitus. (Oman, "England before the Norman Conquest.")

The fourth Bishop, Erkenwald, is a figure of great importance in the history of the Cathedral and the See. He did much to improve the Cathedral through his own munificence, while his popularity and saint-like devotion won for him the picturesque titles of "Christ's Golden Lamp" and "Light of London."

### The Saxon Cathedral.

Of the Saxon Cathedral, on which Erkenwald lavished so much of his bounty, we know nothing except that a National Council was held there in the ninth year after the Conquest, from which it may be inferred that it was a considerable structure. The Saxon Chronicle records under the year 961 that "the Monastery of St. Paul's was burnt, and in the same year restored." The word "Monastery" is a piece of misdescription; for from the foundation of St. Paul's the members of the Chapter were Secular Canons. But, as Dean Milman remarked, the incorrect description is applied to St. Paul's in some of the earlier authorities, out of a desire to make it into a counterpart of the great Abbey of St. Peter on Thorney Island. (Milman, "Annals of St. Paul's," p. 129.)

This fire was a very minor affair compared with the great fire of 1087, which led to the rebuilding of the Cathedral. Maurice, who had been appointed Bishop in the same year, immediately began to lay the foundations for a new Cathedral on a much grander scale. But from the account which is given by Dugdale† it appears that, although he prosecuted the work for twenty years (1087-1107), he did little beyond laying the foundations. He was succeeded as Bishop by Richard de Beaumeis (1107-27), of whom Dugdale says that he devoted to the work the whole of the revenues of the See, but that nevertheless "it seemed but little that he effected."

The progress of the work was retarded by another great fire in the first year of King Stephen's reign (1136), which began at London Bridge and raged as far as the Church of the Danes in the Strand, enveloping St. Paul's on its way. How much the church suffered on this occasion it is impossible to say, but the "Short Chronicle of St. Paul's" (Lambeth Palace Library) states that the body of Erkenwald was translated in 1140, and in the next following entry that it was again translated in 1148. These entries seem to imply that the body was first placed in a new shrine in 1140, and that the shrine itself was placed behind the High Altar (in the Saint's Chapel or Feretory) in 1148, upon the completion of the eastern limb.

Be this as it may, the work of rebuilding dragged on slowly, so that the Norman had developed into the Early English style before the completion of the work. In the year 1221 the tower and spire were finished, and we may suppose that the clerestory and the high vaults of the nave and transepts, together with the upper part of the west front, were being built about the same time.

In 1240 there was a dedication, which we may suppose to have taken place upon the final completion of the church. This view is supported by Dugdale's record (p. 12) that in the year 1236 or thereabouts provision was made for fitting timber for the stalls in the choir—the part of the work which would have been undertaken last.

### The Cathedral in 1240.

The evidence which has been preserved and is derived from many sources enables us without much difficulty to visualise the Cathedral as it was at this time. In its general characteristics it resembled many of the contemporary cathedral and abbey churches. It was cruciform in plan, with a nave of twelve bays, transepts of five bays each, and a presbytery of four bays terminating in an apse. The choir would be placed in the crossing, and above the crossing rose a lofty central tower, surmounted by a beautifully proportioned spire of timber, covered with lead. The lower tier of the tower windows, which were 40 ft. in height, was open to the interior, and the vault over them was 165 ft. above the pavement of the church.

The nave, with its two dozen columns, was a mighty work. Built of stone from the famous quarries at Caen, it was fashioned after the Abbaye-aux-Hommes, but was intended to surpass the model. As at Caen and at Norwich, each of the bays of the triforium consisted of a single open arch; while the piers of the ground story had the same form with those which, in the nave of Durham Cathedral, alternate with columns. The clerestory and the vault belonged to the thirteenth century; and the arcading on either side of the windows was mere surface-decoration. The windows of the aisles were replaced in 1300 by five-light windows.

### The West Front.

There has been a good deal of discussion about the orignal form of the west front, which, in the year 1631, was recased by Inigo Jones in Italian fashion. There is a small print, however, in the possession of the Society of Antiquaries, which Professor Lethaby suggested may have been the Stationer's Card of London. It is entitled "A prospect of parte of ye Citye of London southward to ye Thames wherein you may beholde ye very forme of ye most famous Church of St. Paul." This drawing, the engraving of which was no doubt published soon after the fire in 1561, shows that the upper part of the west front was Early English in style, and that it had three large lancet windows. The middle lancet was the tallest and had a head of cusped form; while above the other two lights there were small circles set in foiled panels. The steep gable had three openings, and turrets on either side. The lower part of the façade doubtless had three entrances, Norman in style, similar to those at Lincoln, the middle one being divided into two by "the famous brazen pillar." The breadth of the façade was extended, as at Peterborough, Wells, and Lincoln, by two towers built against the outer walls of the aisles. The tower on the north side formed part of the Bishop's Palace and gave him a private entrance to the church. The southern, or Lollard's Tower, as it came to be known in later times, projected into the little Church of St. Gregory. It has been doubted whether these two towers were ancient, and, upon the supposition that they were not, they were omitted by Ferrey from his reconstruction. But their antiquity is proved by the way in which the old Bishop's Hall abutted against the northern tower and by the projection of the southern tower into St. Gregory's Church. That they had mullioned windows is shown by the Oxford plan. The notion, which has been entertained by some, that the towers were the work of Inigo Jones, is disproved by a passage in his own report—"St. Gregory's Church . . . abuts on the Lollard's Tower, which is answered on the other side by another tower unto which the Bishop's Hall adjoins." The date of the report is June 14, 1631 (Cat. of State Papers, vol. 193, quoted in a note to p. 116, Sparrow Simpson's "Chapters in the History of Old St. Paul's").

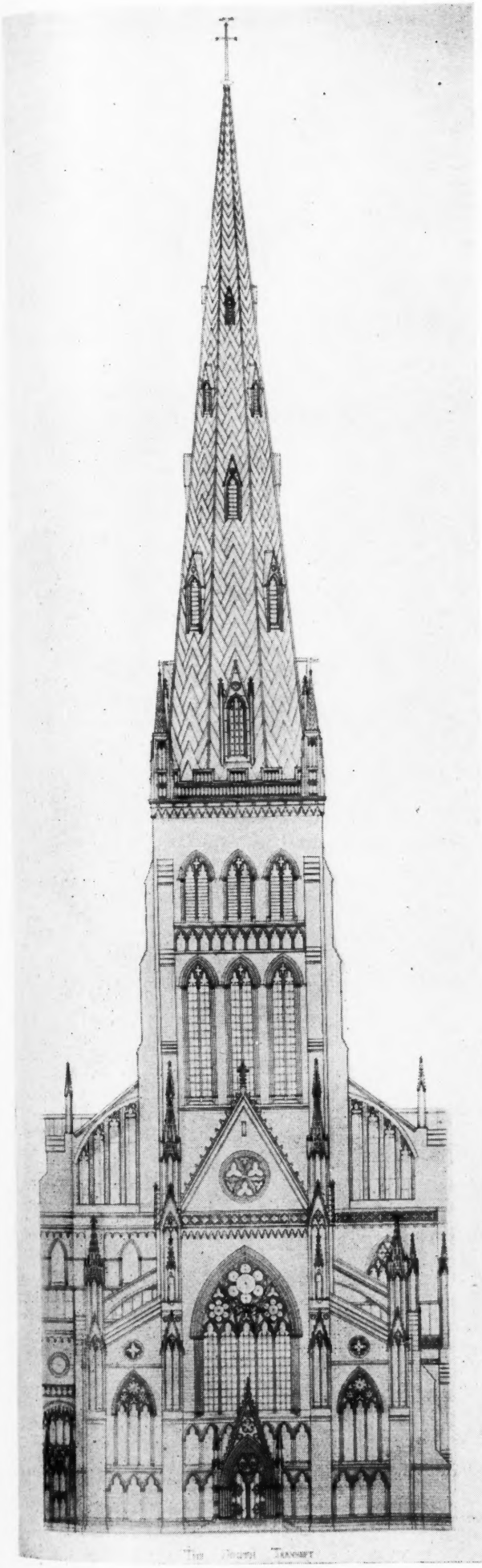
### The Chevet and Transepts.

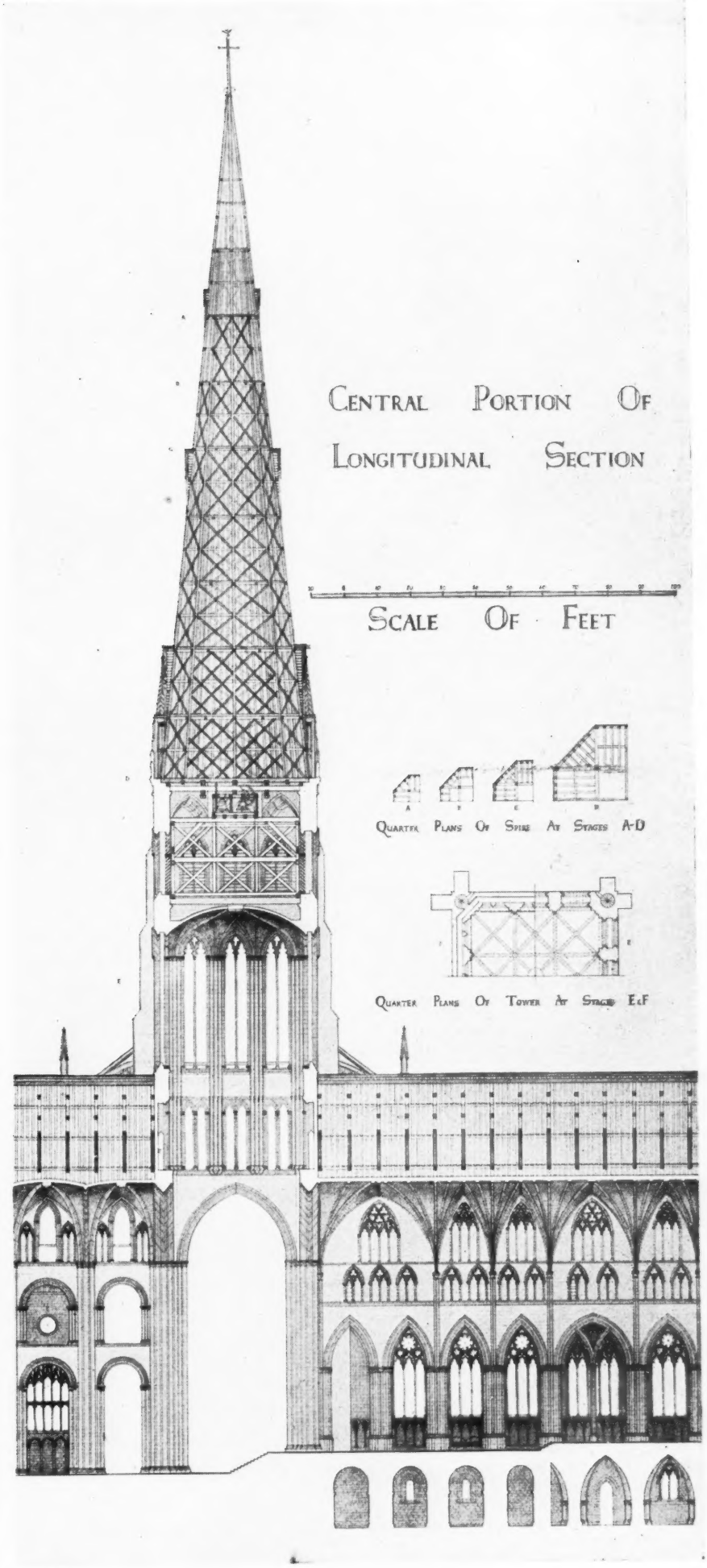
There are two portions of the plan which require particular attention: the original design of the chevet and transepts. It is known that in the presbytery there were four bays, between the crossing and the apse. During the execution of the "New Work" these bays were recased, so as to bring them into harmony with the more eastern arcading. When they were thus transformed, they became the four narrow bays of the "New Work," one of which is shown in Wren's section. Underneath this eastern limb there was a crypt, from which Dugdale deduced the form and size of the structure overhead.

Professor Lethaby supposed that the chevet must have been peri-apsidal in plan, in emulation of Winchester Cathedral; but he

* These drawings were submitted for the Pugin Studentships, 1935, but, while considered by the Jury as of great merit, were ruled out on the ground that the building is no longer in existence.—ED.

† The first edition of Dugdale (1658) is referred to throughout the text, unless otherwise stated.




Central Portion Of
Longitudinal Section
Scale Of Feet
Quarter Plans Of Spire At Stages A-D
Quarter Plans Of Tower At Stage E&F

THE CENTRAL TOWER AND SPIRE AND SOUTH TRANSEPT.

CENTRAL PORTION OF LONGITUDINAL SECTION.

OLD ST. PAUL'S CATHEDRAL, LONDON.

From drawings by MR. R. H. C. FINCH, A.R.I.B.A. (the Bartlett School of Architecture.).

appears not to have observed that his supposition is confirmed by the positive evidence of Hollar's drawings. In Hollar's view of the choir (Dugdale, p. 169) a cylindrical column is shown on either side of it, at the end of the fourth bay from the crossing, on what had been the chord of the apse. On the sides towards the choir these two columns were partially recased, in order to provide abutment for vaulting shafts and the adjacent arch mouldings. Another drawing by Hollar shows one of these columns as seen from the north aisle (Dugdale, p. 86). These two columns standing on the chord of the apse demonstrate that the chevet could not have been triapsal in design; and, if it was not triapsal, it must have been periapsidal. Thus we have a short eastern limb, consisting of four straight and narrow bays, separated by cylindrical columns. Similar columns must have encircled the apse, and round the exterior the usual procession path would run. If we suppose that the plan commonly adopted in Norman cathedrals was also followed at St. Paul's, the procession path must have had three chapels radiating from it. This was the design specially favoured by Norman builders, although the chevet of Norwich Cathedral is the only example now remaining in England, and even at Norwich the most eastern of the radiating chapels was pulled down in the twelfth century to give place to a Lady Chapel, which in its turn was destroyed and is now represented by the newly erected Lady Chapel. If this reconstruction is correct, the plan of the eastern limb of St. Paul's at this period must have been the same as that of the eastern limb of Norwich. In each of the cathedrals the limb would consist of a presbytery of four bays, terminating in an apse; and there would be a procession path in each with three chapels radiating from it. (Francis Bond : "The Cathedrals of England and Wales," 1912 ed., v. Norwich, p. 231.)

### The Problem of the Transepts.

The only portion of the Cathedral about which any real obscurity exists is the transepts. Hollar's view of the crossing (Dugdale, p. 168), which does not embrace the whole of the transepts, but so much only of them as lay adjacent to the choir steps, shows that to the east the transept was bounded by a solid wall, pierced both in the ground story and the triforium by openings which are Norman in style. Therefore it is surprising to find, upon examining Hollar's drawings of the exterior of the east, that the transept had an eastern aisle with large windows which, if not identical with the windows in the aisles of the "New Work," were at least very similar in style (p. 166). In the survey of the Cathedral which he made before the Fire, Wren states that "the aisles were originally shut up for a consistory." That is to say, he supposed the transept to have been originally built with aisles, which at some later period were cut off from the transept by the wall. Professor Lethaby accepted this view, and supposed that the wall may have been erected early in the thirteenth century, at the time when the central steeple was built. It is very puzzling that the Professor should have thought that in certain details in the style of the work he found evidence to confirm his dating. For whilst the clerestory windows of the transepts and its vaulting were, as Hollar's drawing shows, Early English in style, all the openings below, with one exception only, were as obviously Norman work. The one exception is the small entrance to the crypt, upon the right of the choir steps; and this must have been rebuilt at some later period.

The problem we have to consider is this: how did it happen that an eastern aisle, similar in style to the Decorated of the "New Work," should have been blocked up solidly by a wall which, up to the bottom of the clerestory, was Norman work? It is not an easy problem; but we shall have a solution, according with the facts, if we suppose that the transepts were originally built without aisles; that the aisles were added in the middle of the thirteenth century; and that, when they were added, the Norman walls were not pulled down, but were retained to give support to the central tower.

### Weakness in Central Tower.

That there was weakness in the central tower, and that one of the pillars which supported it had settled, is stated expressly in Wren's Report: "The middle part is most defective both in beauty and firmness, for the tower leans manifestly by the settling of one of the Ancient pillars that supported it. Four new arches were, therefore, of later years incorporated with the older ones, which hath straightened and hindered both the room and the clear view through the Nave." (Report in "Parentalia"; see also Dugdale, pp. 167-168.) But these four arches in the crossing were considered insufficient to support the tower, for we find in Hollar's drawings not only that the first pair of choir arches were half built-up, but that the spaces above the entrances leading from the crossing into the choir aisles were also blocked up. The weakness of the tower must have been considered very serious; and the fact that it was on the east of the crossing that so much of the work intended to give it additional support was done seems to render it almost certain that the pillar stated by Wren to have settled must have been one of the eastern pillars. But if it was on the east that the tower settled, it becomes apparent that, when the builders added new aisles to the transepts, they would have had good cause to retain the old Norman walls on the east of the transepts.

One or two openings must have been made in the Norman walls in order to provide access from the transepts to the new eastern aisles. No such opening appears in Hollar's drawing, but it shows only a portion of the transepts. In the supposition that the tower settled on the east, the builders would have had a freer hand with the Norman walls on the west of the transepts; for they would not be obliged to leave so much additional support for the tower. These walls may have been excavated by them for the purpose of building in arches to communicate with the new aisles on the west of the transepts.

It may be objected that so great a Cathedral as St. Paul's could never have been intended to have aisleless transepts, and must always have had eastern and western aisles, such as we still see existing in the transepts of Winchester and Ely. But this is mere assumption; and we find that in the Cathedrals of Norwich and St. Albans, the transepts were aisleless from the first, with apses projecting from the east. There may have been similar apses at St. Paul's, though no evidence of their existence is to be found in Hollar's drawing of the crossing. No blocked-up arch appears in it, such as might indicate the entrance to an apse. The blocked-up arch which it does show on the left of the choir steps, and immediately adjacent to them, is much too low, and must have been built to give access to the crypt. But as the drawing exhibits only a small portion of the transepts, it is not evidence that there were no apses; and there may have been eastern apses opening from the ends of the transepts. Such an arrangement still exists at the Cathedral of Laon, in France, and formerly existed at the Abbey of Bury St. Edmunds. It has been suggested that the transepts may orignally have had aisles to the west and apses to the east, but this is an arrangement of which no example can be cited.

### The "New Work," 1256.

A mediæval cathedral was not often out of the builders' hands for any length of time; and the Cathedral, as it was first completed, had been standing for only a few years when a vast extension to the east was projected and begun. This—"the New Work," as it was called—was commenced in 1256, according to Dugdale; but Stow says in 1251. In the Chronicle of the Mayors and Sheriffs there is the precise entry under the year 1258, "This year before Easter was begun the 'New Work' of the Church of St. Paul, and Fulk Bassett, Bishop of London, died before Pentecost." This immense extension was carried out with far more expedition than the earlier work.

In recording that letters of Indulgence for the old and new work were issued in 1281, Dugdale adds: "But about this time, it seems, that the main brunt was over; for afterwards I find but few more of these letters Hortatory" (p. 14). Such letters, he adds, were issued in 1294 and 1303. It appears doubtful, however, whether the work can have been so far advanced in 1283 as Dugdale believed. For in 1309 a splendid new altar-piece is mentioned; and in 1312, Ralph, Bishop of London, made a contract with "Adam le Marbrer" for the pavement of "four spaces" (*i.e.*, bays) "under the four new vaults of the middle roof of the 'New Work' of St. Mary at St. Paul's." (Calendar of St. Paul's MSS.) The "New Work" must have been finished by the year 1314, for the dedication took place in that year. This fact we learn from the Short Chronicle of St. Paul's (Lambeth Palace Library), which under that year records "the dedication of the altars of the Blessed Virgin, St. Thomas, and St. Dunstan in the New Fabric of the Church of St. Paul."

The "New Work" consisted of eight bays, and, taken together with the four Norman bays, which had been recased to match it, gave the eastern limb a total internal length of 234 ft. Thus transformed, the Cathedral became the longest in Europe, having a total external length of 585 ft. The spire that surmounted the noble lantern tower surpassed that of Salisbury, rising to a height of no less than 440 ft. above the ground.

The "New Work" was a mixture of French and English Gothic. Beneath the glorious rose window which terminated the eastern vista, and associated with it, were seven vertical lights. The whole formed a single composition. The tracery of the vertical lights was doubled; and the space between the inner and the outer tracery was covered by a vault. Above the vault and under the rose window there was a passage, which connected the north and south parts at the level of the triforium, similar to those which still exist in the Minsters of York and Beverley.

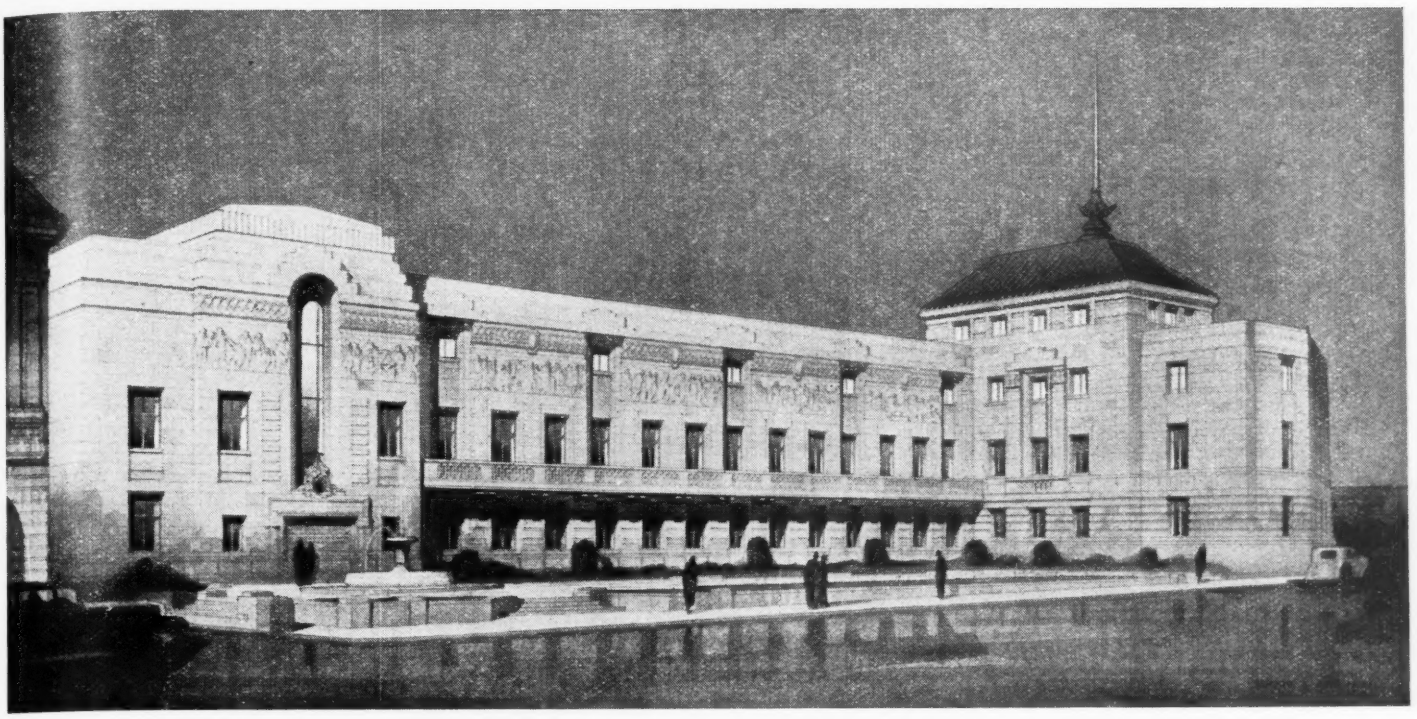
*(To be concluded.)*

## "UNFIT HOUSES"

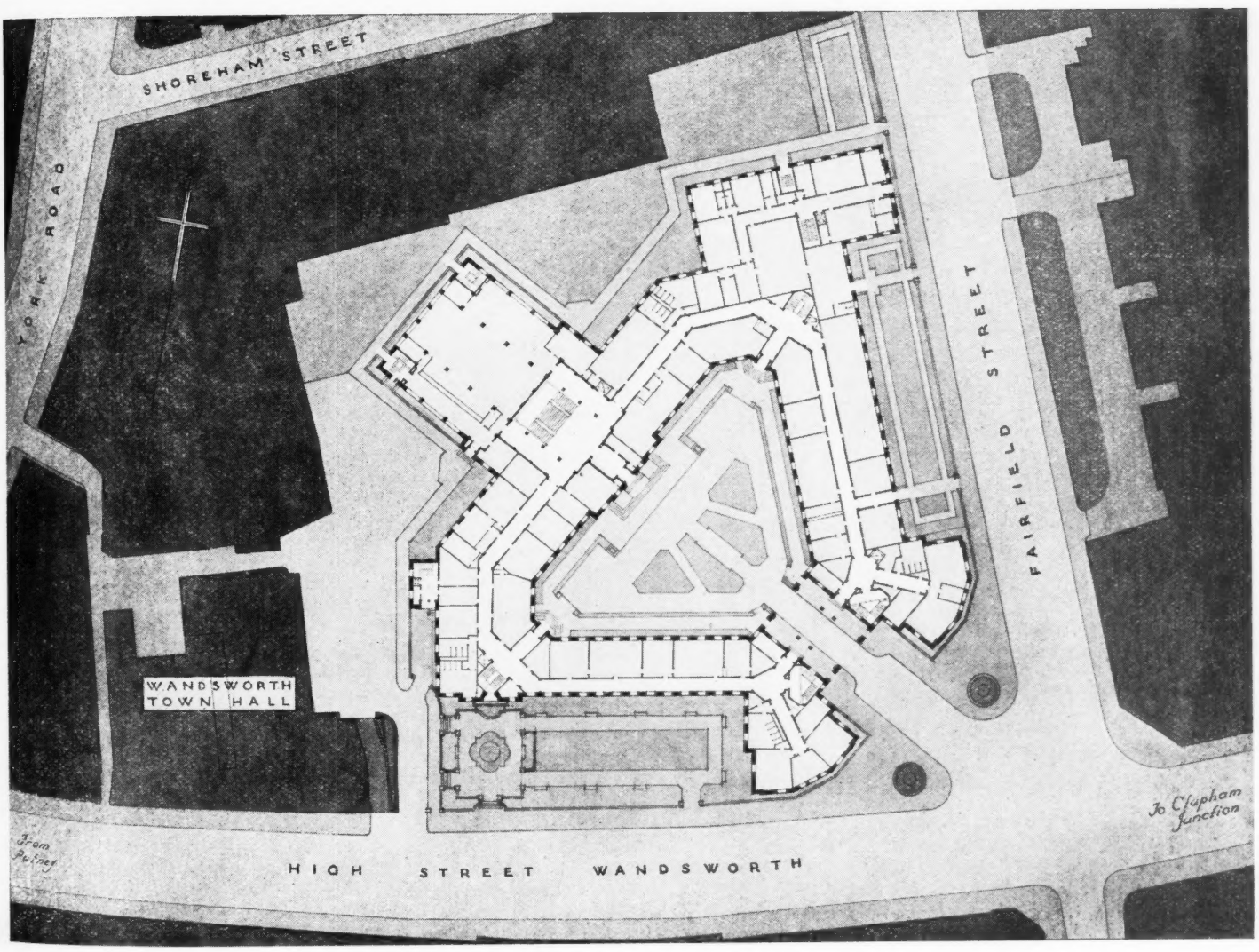
The authors, in their preface to this book,* are perhaps a little cynical in their observations on the "legislative body" which produces Acts of Parliament, and the Courts who endeavour to interpret those Acts, but most people will agree with them about the terms in which modern Acts are drafted, as these Acts compare very unfavourably with the statutes of old times; but perhaps this may be partially explained by the fact that the domestic legislation we now look for does not lend itself to the same simplicity, and involves ever-increasing legislation by reference.

Having regard to the above difficulties in interpreting the legislation, the authors have set themselves the task of "presenting the procedure in a lucid and logical way, as free as possible from legal jargon," and in the small space at their disposal they appear to have produced a useful guide to Part II of the Housing Act, 1930, in this little volume of 78 pages, including an index, procurable at a very small price. The authors acknowledge their indebtedness to Mr. A. H. Hill and his publishers for the permission accorded to draw freely from his work "The Complete Law of Housing," and model specifications are given in one chapter, of which Mr. A. G. Harmen is joint author with Mr. H. G. Clinch.

* "Unfit Houses." A Guide to Part II of the Housing Act, 1930, for Local Representatives and Officers. By H. G. Clinch, M.R.S.I., Chief Sanitary Inspector, County Borough of West Ham, and B. G. Bannington, Sanitary Inspector, County Borough of West Ham. London: H. K. Lewis and Co. Price 3s. 6d. net.



FACADE TO THE HIGH STREET.

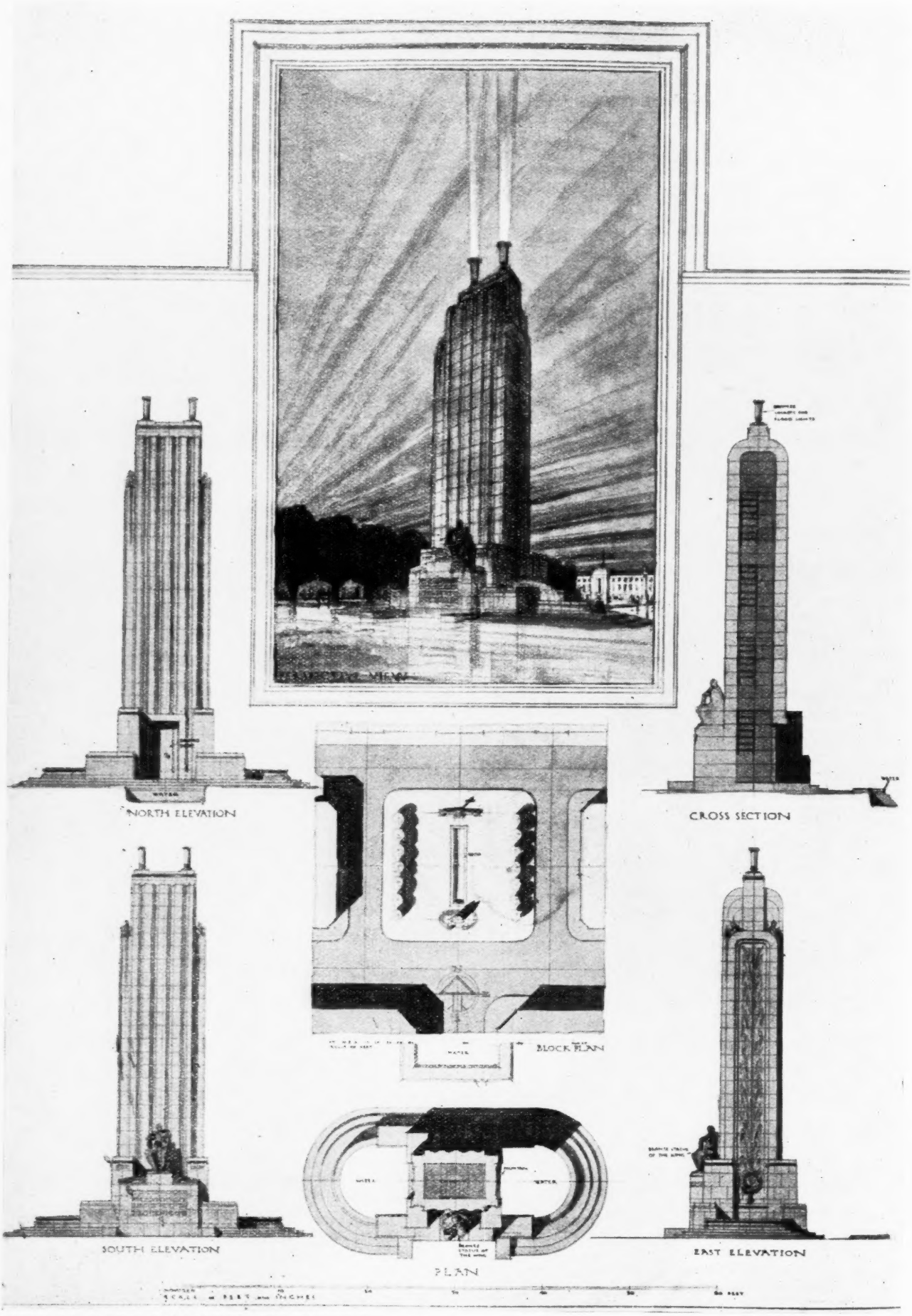



PLAN OF THE NEW BUILDING.

## NEW ADMINISTRATIVE OFFICES, BOROUGH OF WANDSWORTH.

MR. EDWARD A. HUNT, F.R.I.B.A. (Messrs. William and Edward Hunt, FF.R.I.B.A.), Architect.

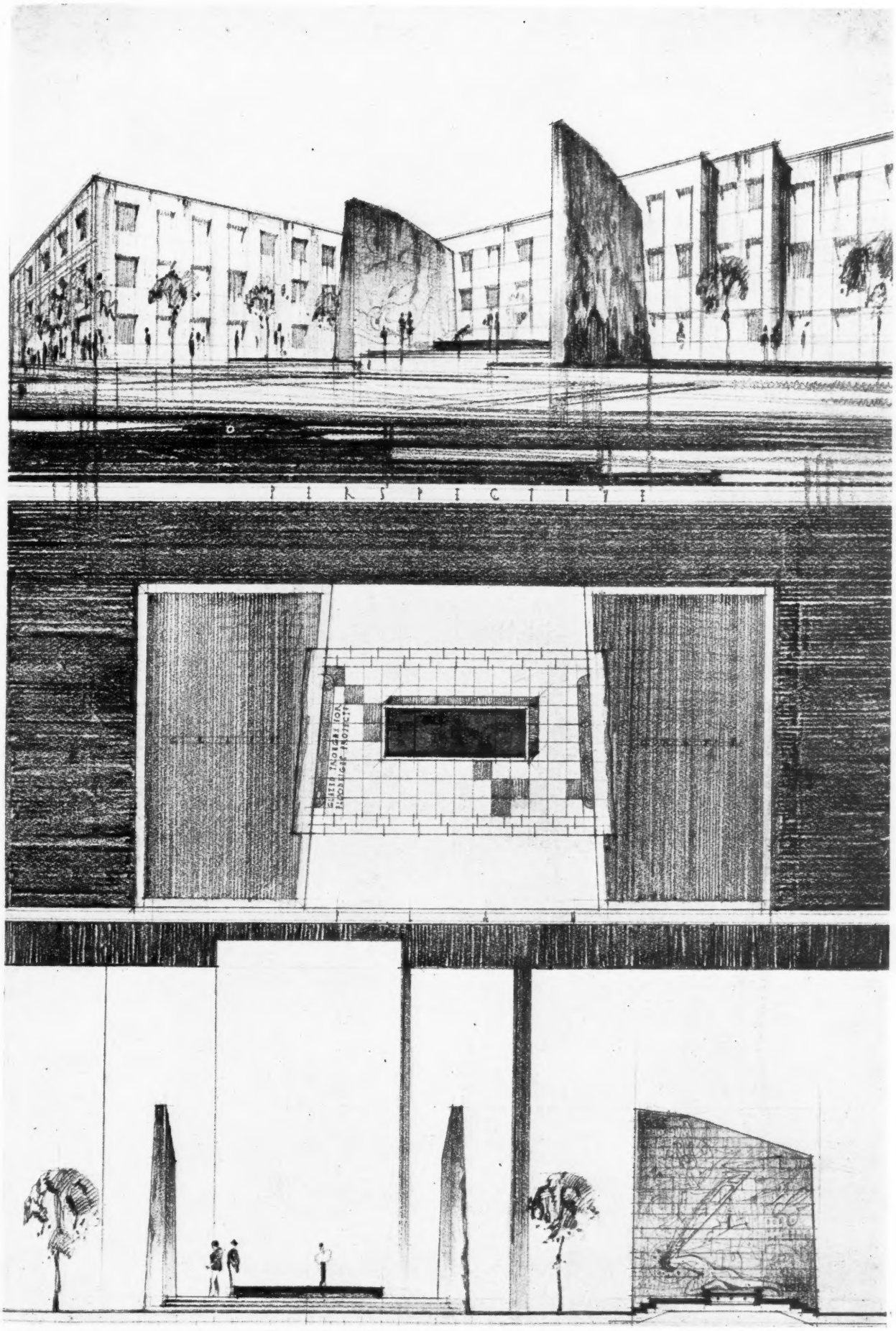
(See pages 724 and 742).




Organised by the A.A. for Cornish Quarry Masters' Association.

## COMPETITION FOR DESIGN IN GRANITE FOR A MONUMENT TO COMMEMORATE THE TWENTY-FIFTH YEAR OF HIS MAJESTY'S REIGN : Joint First Premiated Design.

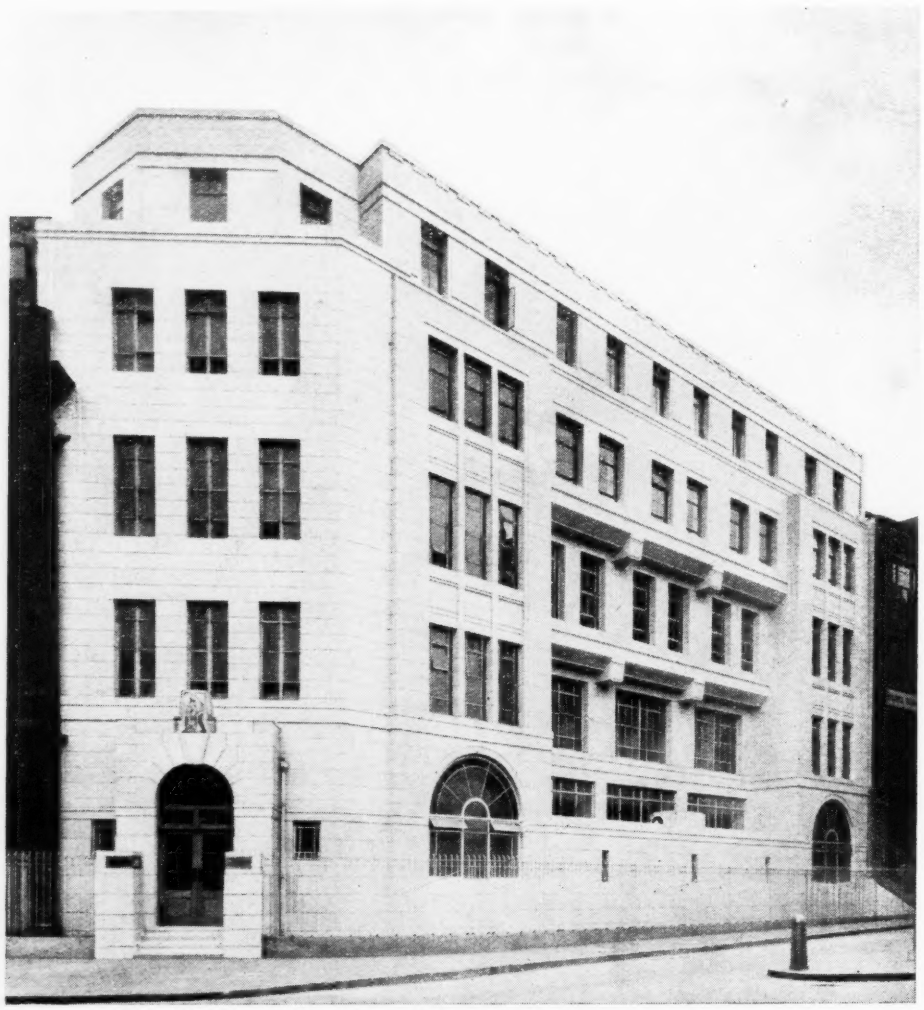
By MR. THOMAS BRADDOCK. L.R.I.B.A.




Organised by the A.A. for Cornish Quarry Masters' Association.

COMPETITION FOR DESIGN IN GRANITE FOR A MONUMENT TO COMMEMORATE THE TWENTY-FIFTH YEAR OF HIS MAJESTY'S REIGN : **Joint First Premiated Design.**

By MR. A. S. MORRIS.



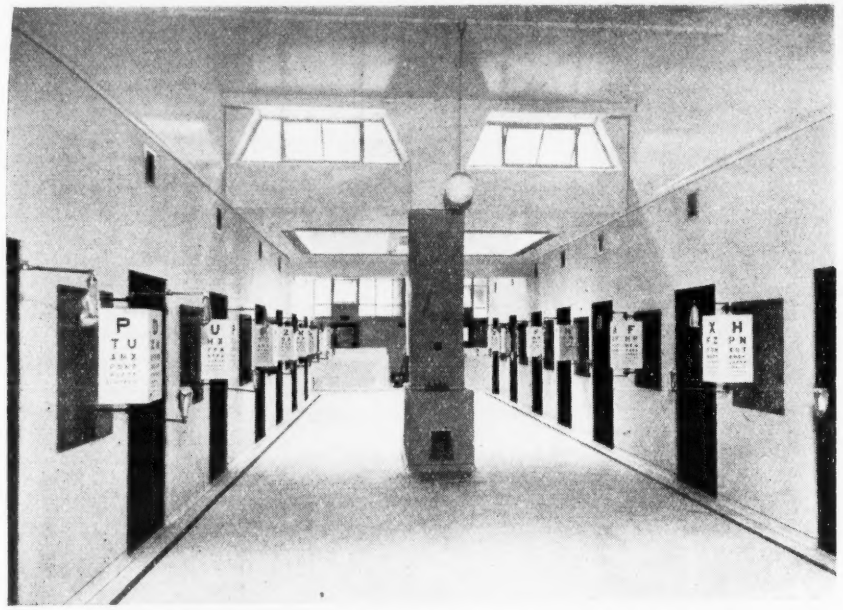
NEW FACADE TO CAYTON STREET.

GENERAL WAITING HALL, LOOKING SOUTH.

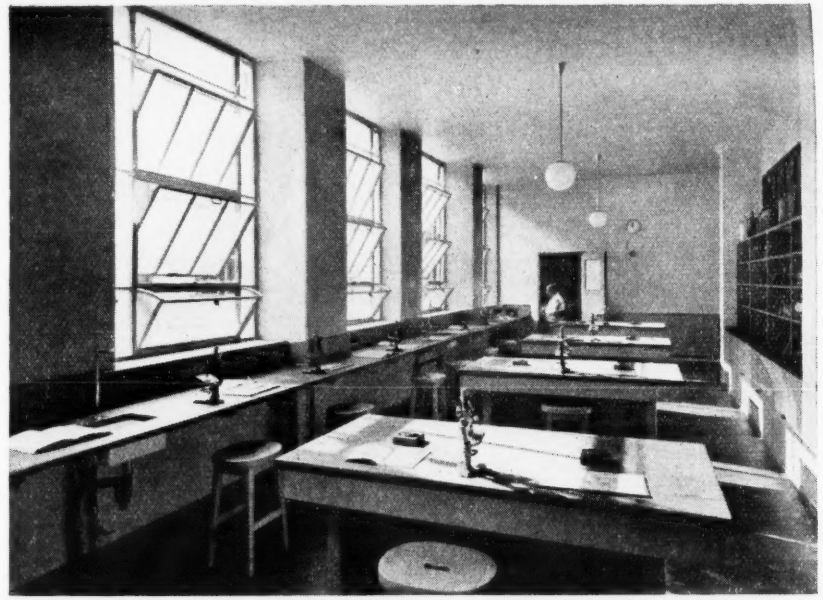
## THE ROYAL LONDON OPHTHALMIC HOSPITAL, CITY ROAD, E.C.

MESSRS. CAMPBELL-JONES, SONS AND SMITHERS, Architects.

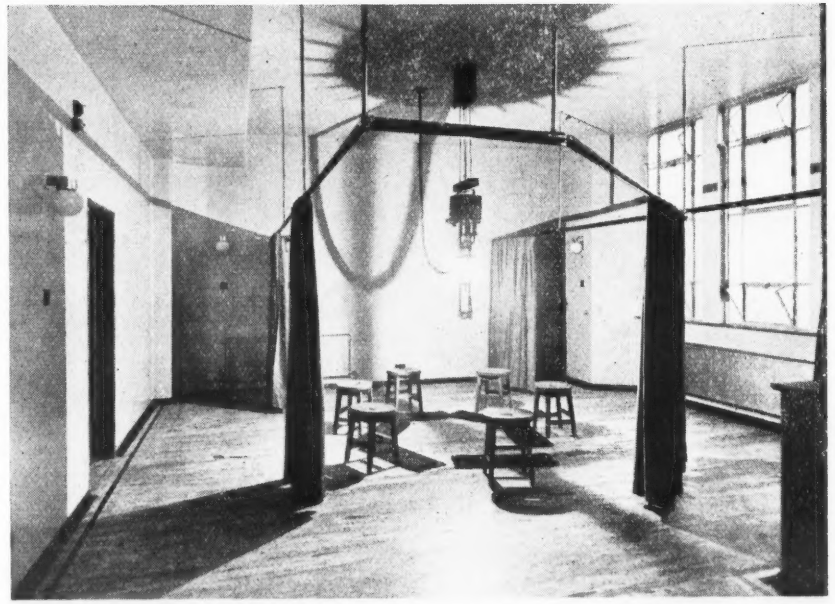
(See page 742).



CORRIDOR BETWEEN REFRACTION CUBICLES, GROUND FLOOR.



PATHOLOGICAL LABORATORY, SECOND FLOOR.



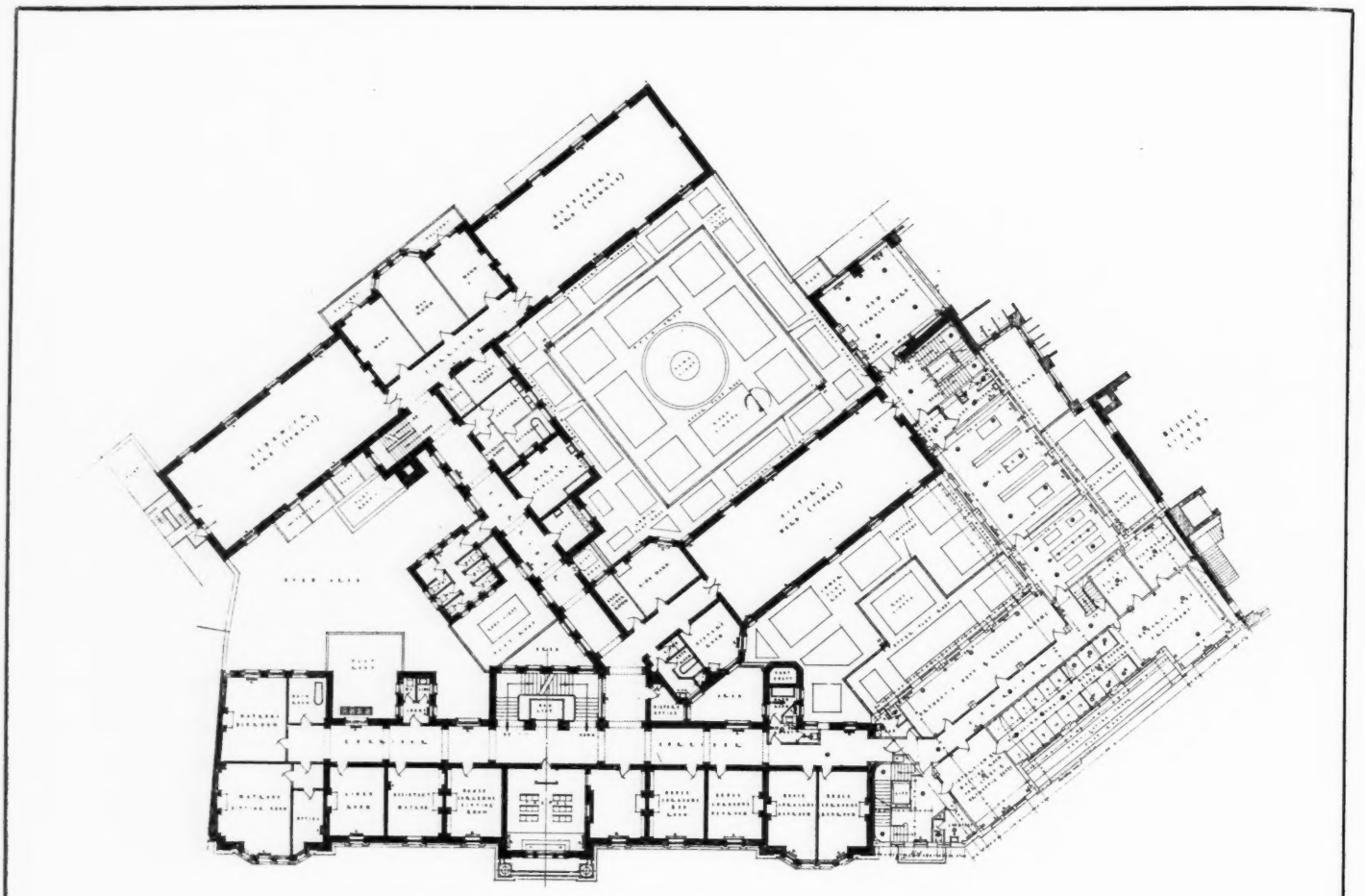
GENERAL LIGHT TREATMENT ROOM, PHYSICO-THERAPEUTIC DEPT., FIRST FLOOR.

ONE OF THE SURGEON'S CLINICS, GROUND FLOOR.

THE ROYAL LONDON OPHTHALMIC HOSPITAL, CITY ROAD, E.C.

MESSRS. CAMPBELL-JONES, SONS AND SMITHERS, Architects.

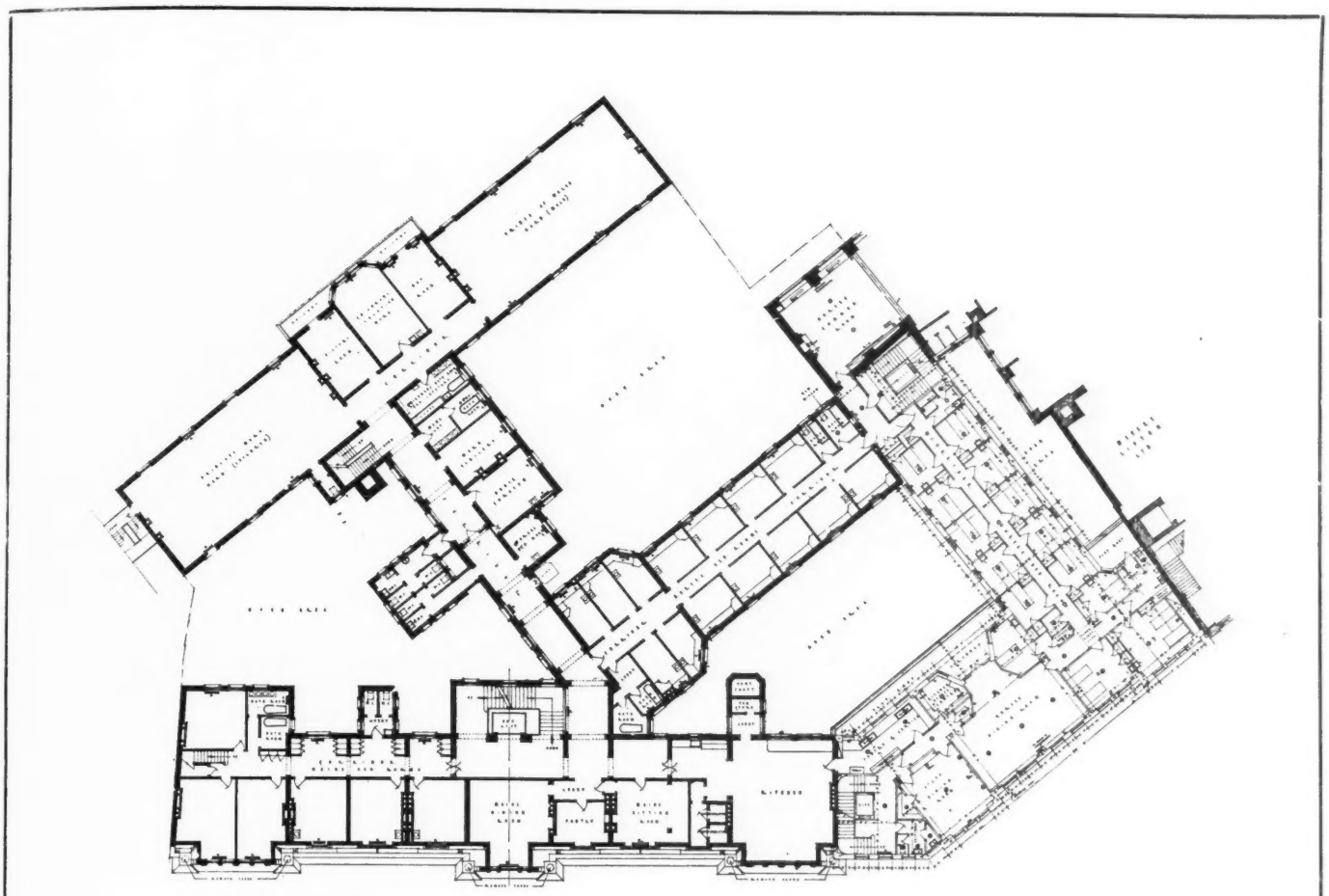
(See page 742.)



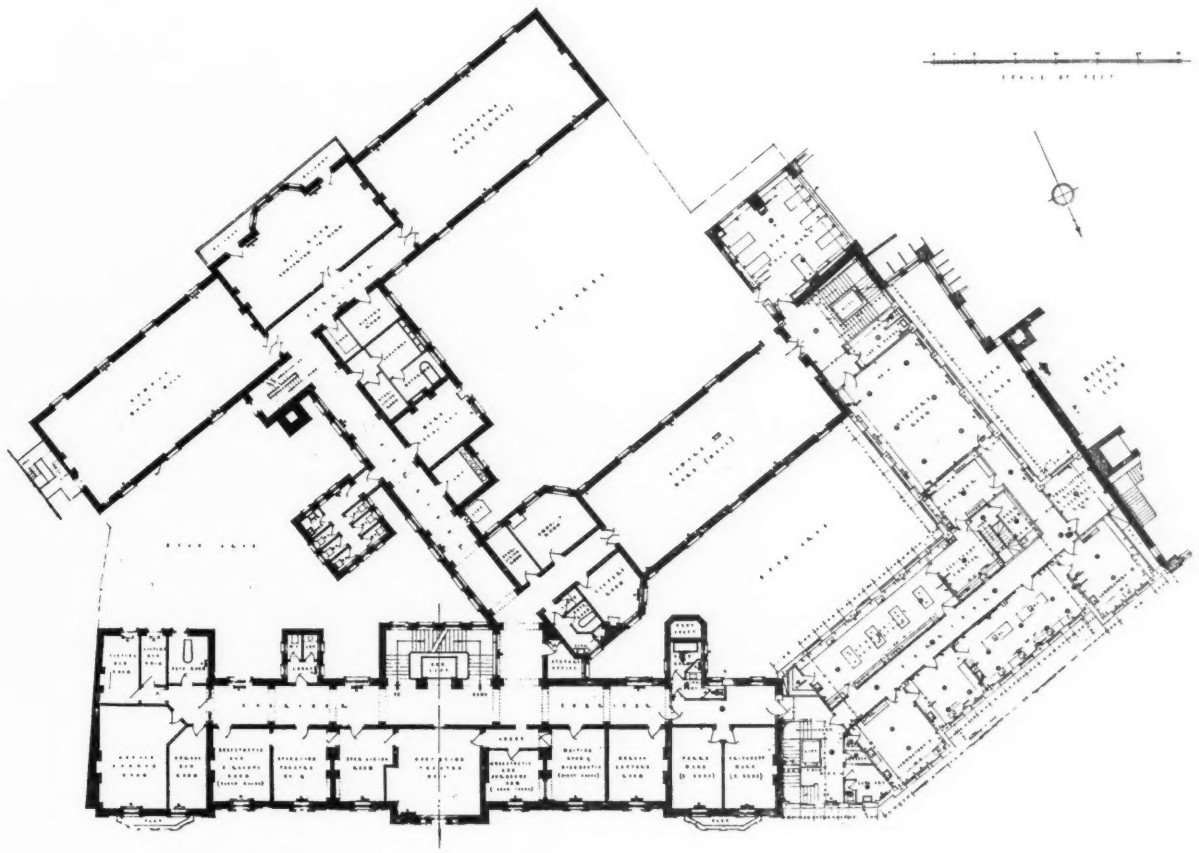

THE ROYAL LONDON OPHTHALMIC HOSPITAL, CITY ROAD, E.C.

MESSRS. CAMPBELL-JONES, SONS AND SMITHERS, Architects.

(See page 742.)



THIRD FLOOR PLAN



SECOND FLOOR PLAN

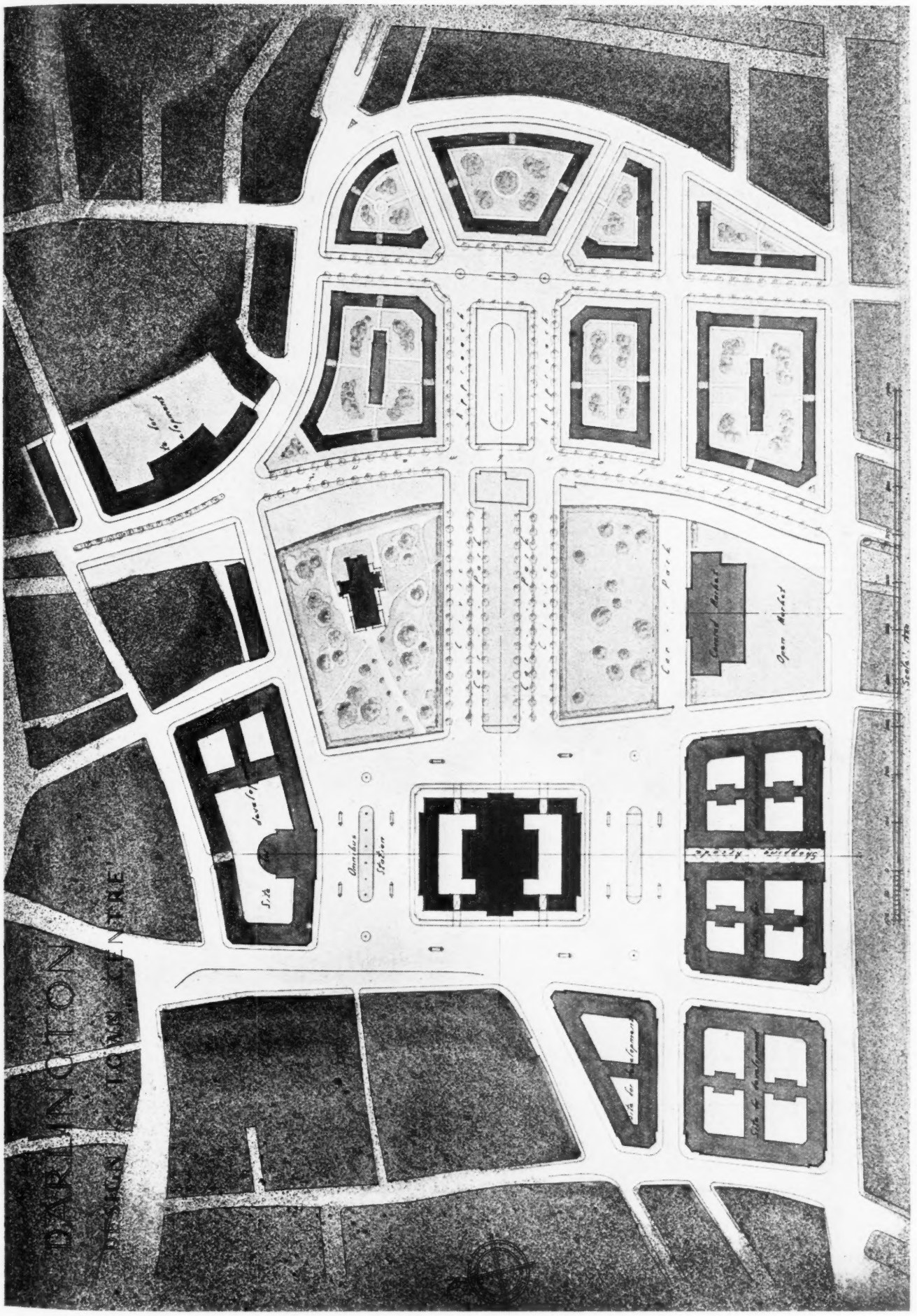
THE ROYAL LONDON OPHTHALMIC HOSPITAL, CITY ROAD, E.C.

MESSRS. CAMPBELL-JONES, SONS AND SMITHERS, Architects.

(See page 742).

COMPETITION FOR TOWN CENTRE, DARLINGTON : FIRST PREMIATED DESIGN.

MR. E. BERRY WEBBER, A.R.I.B.A., Architect.

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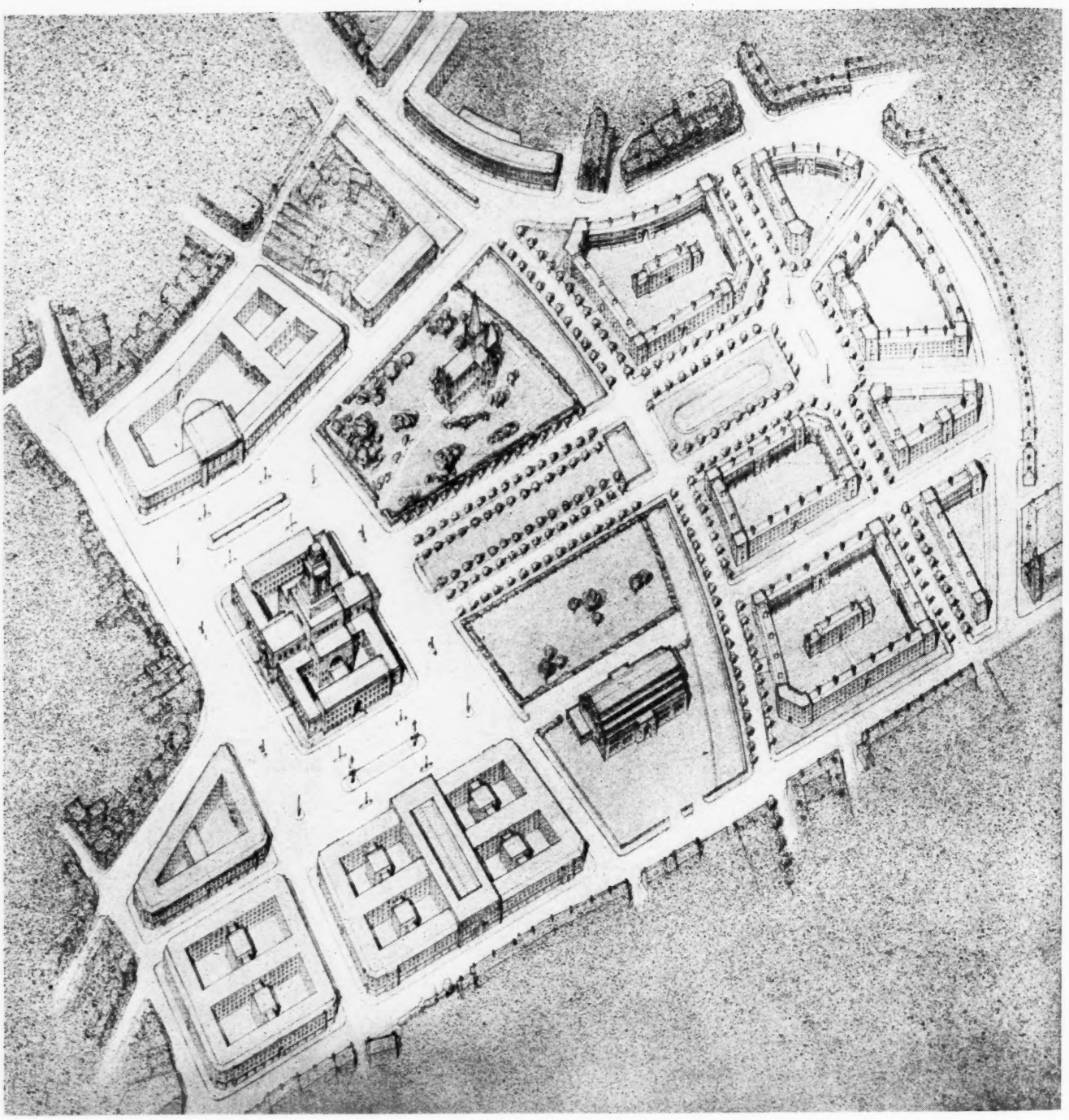
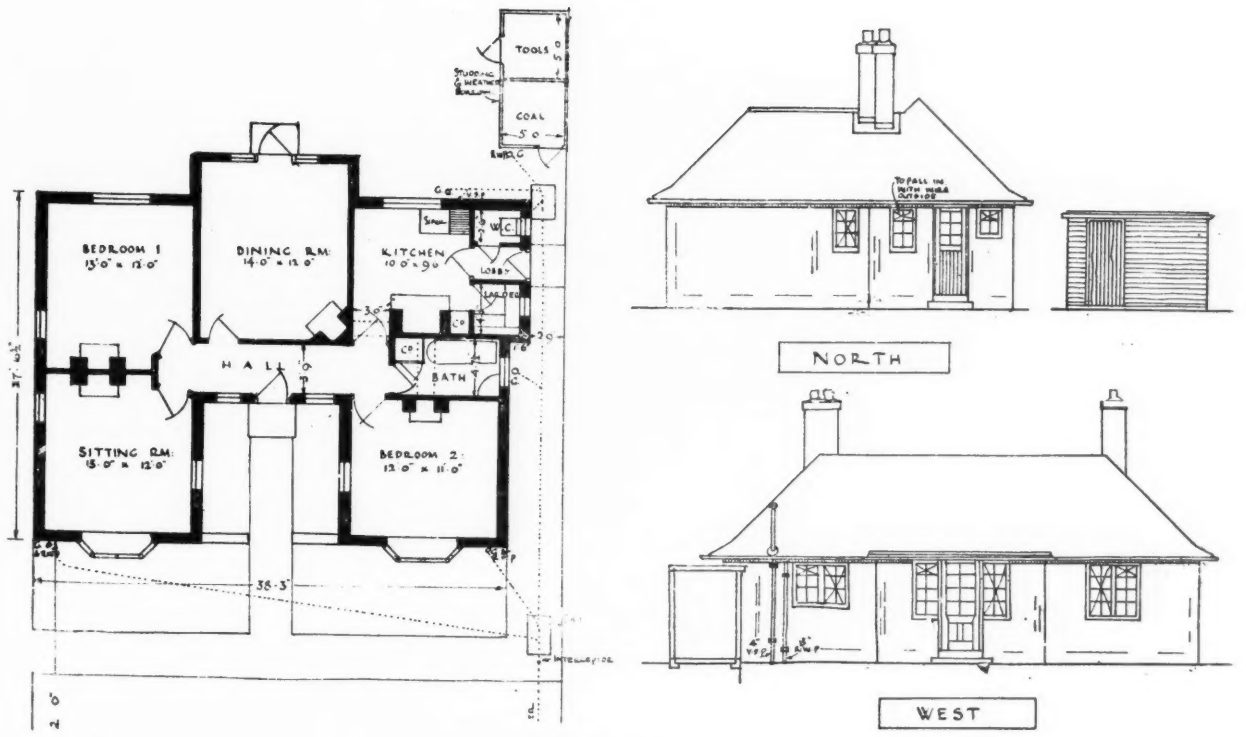


COMPETITION FOR TOWN CENTRE, DARLINGTON : FIRST PREMIATED DESIGN.

MR. E. BERRY WEBBER, A.R.I.B.A., Architect.

ENTRANCE FRONT.




BUNGALOW AT THORPE, NORWICH.

MR. STANLEY J. WEARING, F.R.I.B.A., Architect.

# ILLUSTRATIONS

## PLATES

### Wandsworth Civic Centre.

The new administrative offices for the Wandsworth Borough Council, now in course of erection, form the first part of a scheme for civic planning which, in its completeness, should be notable among the conceptions of Metropolitan boroughs, of which it is one of the most important and largest in area.

In making the selection they have, of a site bounded by High-street, York-road and Fairfield-street, adjacent to the Town Hall, and in the historical centre of the parish and borough, the Council are to be congratulated in clearing away an area largely unproductive from a modern viewpoint. Measures have been taken to rehouse, more adequately than before, all the residents displaced by the scheme. An area of nearly five acres was allocated to the scheme, and the architect, Mr. Edward A. Hunt, J.P., F.R.I.B.A. (Messrs. William and Edward Hunt, FF.R.I.B.A.) was instructed to make provision for the development of this area as a civic centre.

The predominant feature of the scheme is the administrative office building. This combines in one all the manifold interests that the work of the borough covers. As a first essential in his plan for these offices, the architect has been governed by the desire that everyone feels to-day—that of combating noise—and a marked feature of his plan is the spacious court on to which the principal offices look, and the setting of the building generally well within the confines of the site. The council chamber is planned on the western side of the site axially with the main entrance to the courtyard from the junction of High-street and Fairfield-street. With an area of 67 ft. by 59 ft., and 27 ft. high, it will accommodate 100 councillors, a number a little in excess of present requirements, but making provision for extension as the scope of the borough expands. Ample provision is made for the accommodation of the public and for the Press. The council chamber is planned on the first floor, flanked by committee rooms, five in number, and by the library and refreshment rooms.

With the mayor's parlour and secretary's room, the town clerk's department occupies an important part of this floor, and is centrally planned for administration purposes, with the town clerk's office adjoining the mayor's parlour, and the committee clerk's room adjacent. On the ground floor the large area under the council chamber contains the rating and finance department, there being a separate entrance for the public, accessible both from High-street and York-road. The housing department and that for the registration of births, marriages and deaths occupy the remainder of the ground floor, flanking the main entrance to the courtyard. The second floor is given over largely to the borough engineer's department.

In all respects the planning has been governed by consideration of modern requirements for business uses. Light and air, natural ventilation, suitability of material, and provision for the health and comfort of those employed, have been regarded as first principles throughout the scheme. The medical officer's block is practically a self-contained department. It is planned on three floors.

Externally, the keynote of the design is simplicity and directness. Only to the main entrance and to the High-street facade has embellishment been applied, and here it was felt that some expression to the character of the borough should be given. Advantage has been taken along the High-street elevation, where the aspect renders light undesirable, to portray in stone the more marked epochs in the history of the borough. The forecourt to High-street and that in Fairfield-street are to be laid out as gardens, not large in extent, but sufficient, with the spacious entrance court and the surroundings to the council chamber suite, to provide not only an additional lung to the borough, but a setting which will enhance the buildings now being erected.

The specialist consultants are: Mr. B. L. Hurst, M.Inst.C.E., M.I.Mech.E., foundations and steel; Mr. William Macintyre, engineering services; Mr. Hope Bagenal, A.R.I.B.A., acoustics; and Messrs. L. A. Francis and Sons, FF.S.I., quantity surveyors. Mr. H. G. Ruscoe is the clerk of works.

The contractors are: H. J. Moyes, demolition of old buildings; Kirk and Kirk, Ltd., foundations; A. D. Dawnay and Sons, Ltd., constructional steelwork; Dove Brothers, Ltd., superstructure.

### A Monument in Granite

The result of the competition organised by the Architectural Association for Cornish Quarry Masters' Association will be found on page 726. The designs—of which we illustrate those sharing the first premium, by Mr. Thomas Braddock and Mr. A. S. Morris—are referred to on page 724.

### Royal London Ophthalmic Hospital, E.C.

The out-patients' department of this hospital in City-road, E.C.1, erected in 1898 and found no longer adequate for the increasing number of patients, has now been demolished for the erection of a new department extending from Cayton-street and City-road to Peerless-street.

The additions comprise the new out-patients' department on the ground floor, and above, in an L-shaped block fronting Cayton-street: First floor: Physico-therapeutic department, orthoptic department, museum and library; second floor: pathological laboratory, bacteriological laboratory, curator's rooms and lecture theatre; third floor: staff dining-room, nurses' dining-room and nurses' bedrooms; fourth floor: nurses' bedrooms.

In a block to the rear (and connecting with the existing hospital wards) are two contributory wards and patients' sitting-room and a new nurses' sitting-room adjoining the nurses' bedrooms. In construction, the building has a steel frame with reinforced concrete floors, a special feature of these being double floors, between which the services for lighting, heating, hot water, drainage, etc., are placed. The internal walls to the areas are faced with Midhurst white bricks, and the main façade is in buff-coloured terra-cotta next Cayton-street. On this front each story is set back from the third floor downwards in order to obtain necessary north lighting for the surgeons' clinics, which are placed on the ground floor behind the dark rooms.

The out-patients' department has been designed to deal with 700 to 800 patients daily, and the layout incorporates many features new to this class of hospital for eliminating as far as possible unnecessary waiting on the part of the patients. From the out-patients' entrance in Peerless-street leading into the main waiting hall, direct communication is made with the eight main working centres as under: (1) Registration of new patients; (2) issue of registration letters to old patients; (3) sifters' department, where patients are examined and sent to the various other working centres for treatment; (4) refraction department; (5) casualty department; (6) five self-contained surgeons' clinics; (7) lady almoner's department; (8) dispensary; and (9) spectacle room.

Heating is by means of panel-type radiators by low-pressure steam. These, together with the hot-water services, are supplied by three new coal-fired boilers with mechanical stoking gear and coal conveyor. For ventilation a latest-type air-conditioning plant has been installed, and from this conditioned air is driven.

The architects for the additions are Messrs. Campbell-Jones, Sons and Smithers, FF.R.I.B.A., FF.S.I., and the builders Messrs. John Greenwood, Ltd.

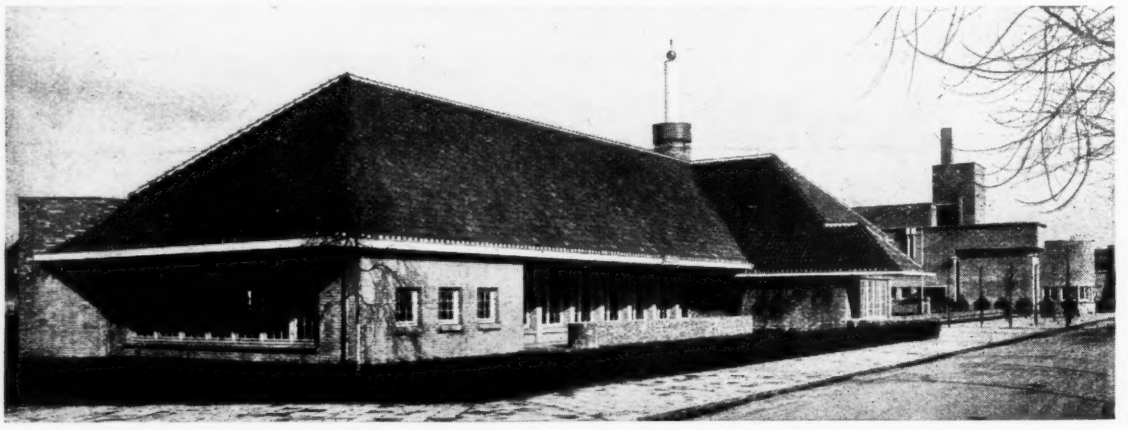
The sub-contractors are: Hathernware, Ltd., terra-cotta; Limmer and Trinidad Lake Asphalte Co., asphalte; Aston Construction Co., steelwork; J. A. King and Co., Ferrocrete roof lights; Hollis Bros., wood-block floors; Korkoid, Ltd., linoleum floors; Granwood, Ltd., "Granwood" floors; Art Pavements and Decorations, Ltd., "Biancola" work, tiling and floors; Ashwell and Nesbit, heating and ventilating; Tyler and Freeman, electrical equipment; London Brick Co., bricks and partitions; Midhurst Brick Co., Ltd., facing bricks; Crittall Manufacturing Co., steel sashes; Patent Impervious Stone and Construction Co., Ltd., reconstructed stone; Waygood Otis, electric lifts; Dunlop Rubber Co., rubber flooring; John Bolding and Sons, sanitary fittings; Dent and Hellyer, sanitary fittings; James Slater and Co., sterilisers; Down Bros., medical apparatus.

### Town Centre, Darlington.

In this competition, which was limited to six firms of architects, Mr. E. Berry Webber, A.R.I.B.A., has gained first place. We illustrate his design in this issue. The full award is on page 726.

### Bungalow at Thorpe, Norwich.

This bungalow was built for Mr. Darby, at a cost of £590, by Messrs. R. G. Carter, Ltd., of Drayton. The exterior is rendered in cement, finished with wood float, and the roof covered with pantiles. The architect was Mr. Stanley J. Wearing, F.R.I.B.A.



PORTION OF FRONT, SCHOOL BUILDINGS, EGELANTIERSTRAAT.

MR. W. M. DUDOK, Architect. (See page 727).

# SOCIETIES AND INSTITUTIONS

## WEST YORKSHIRE SOCIETY OF ARCHITECTS.

### Denmark and Sweden.

Mr. Victor Bain, President, took the chair at a meeting of this Society, held in Leeds on April 11, when the winner of a Sir William Nicholson Travelling Studentship, Mr. J. R. Tolson, lectured on his impressions of Denmark and Sweden. In both countries, he said, brickwork was the traditional treatment for exterior work, and he had been struck by the clever use of bonds and the handling of mortar. The principal bond used was a cross between Flemish and Flemish Garden Wall, and consisted of two stretchers to each header in the same course, and this formed a pleasant zig-zag pattern. At Elsinore, the scene of Shakespeare's "Hamlet," he thought that Kronborg Castle was the most beautiful Renaissance building in Scandinavia, the walls being in some cases 12 feet in thickness. As for Sweden, he regarded the new crematorium, by Ostberg, at Helsingborg, as an architectural gem based on traditional forms, whereas the Theatre was a purely functional design, though of much interest. The new Concert Hall at Gothenborg contained a brilliant idea, namely, curved roof-trusses alternating with clear-story windows—a fine instance of essential structural features forming the motif of the interior design. As to the architecture generally of these countries, he said, they were too apt to think only of buildings erected in recent years, and to look on them as something quite new in idea and outlook. In reality, the most famous of them were the culmination of the development of a national style, tinged with the genius and personality of the designers. The Stockholm Town Hall ended rather than began a new epoch. To sum up, he found in Denmark classic simplicity and refined detail gave a graceful austerity to its buildings; whilst in Sweden a more adventurous spirit was evident, much affected by the functionalism found in Germany, Austria and France.

The lecturer, whose remarks were profusely illustrated on the screen, was accorded a vote of thanks, on the motion of Mr. Frank Tranmer, seconded by Mr. Allan Johnson; whilst amongst others Mr. J. S. Allen spoke in support.

## ROYAL INCORPORATION OF ARCHITECTS IN SCOTLAND.

At the monthly meeting of the Council of the Royal Incorporation of Architects in Scotland, Mr. Wm. B. Whitie, F.R.I.B.A., President, in the chair, it was decided to publish an explanatory pamphlet as to an achitectural career. The Council voted renewal of annual subscription to the A.P.R.S. Mr. James A. Arnott, F.R.I.B.A., was appointed representative to the R.I.B.A. Board of Architectural Education for the ensuing session. It was agreed to exchange all periodicals published by the Incorporation with the Academy of Architecture, Moscow. The following new members were elected :—Messrs. G. Watt and F. L. Williamson, Aberdeen; F. A. G. Inglis, Keith, and Alex. Smellie, Glasgow—as Fellows; Messrs. D. W. Innes, Aberdeen; E. M. Judge, Crieff; Alex. Fraser, Glencarse; I. B. Kinnear, Dundee; J. H. F. Stewart, Lanark, and Arch. MacLean, Glasgow—as Associates.

## C.P.R.E.

### The Gloucestershire Branch.

The annual meeting of the Gloucestershire branch of the Council for the Preservation of Rural England was held at Cheltenham on April 6, Sir Fabian Ware, Chairman of the Branch, presiding.

Mr. E. Guy Dawber, A R.A., Chairman of the executive of the C.P.R.E., referred to the increasing influence of the C.P.R.E., which, he said, was in no sense a political body. Present-day conditions, and in particular the ever-increasing volume of motor transport and the introduction of machinery, were responsible for much of the destruction now taking place. The spread of towns was not being carried out in an ordered manner, and there was an alarming increase in ribbon development which must and could be stopped. While he had no desire to sneer at bungalows and other types of buildings, he considered that the speculative builder was like a canker feeding on the beauty of the countryside which he turned into a waste. He urged local authorities to use to the utmost the powers given them to prevent the defacement of the countryside by the building of petrol stations, the erection of large advertisement hoardings, and the leaving of litter. He paid a tribute to the work of the Gloucestershire branch, which, by their publications, small local committees, and their panel system of architects for the assistance of those anxious to erect buildings, and, above all, by their own undaunted voluntary spirit, had done much to save the wonderful beauty of their own countryside.

### Isle of Wight Branch.

Lord Mottistone, who presided at the annual meeting of the Isle of Wight branch, said the Isle of Wight depended on two things —agriculture and its beauty—and if there was a place where the C.P.R.E. was needed it was there. He sometimes wondered why people in the Isle of Wight could be incredibly foolish enough, themselves living in a beautiful cottage with, perhaps, a lovely thatched roof, to allow the tragic error of putting up advertisements. He had lived there all his life, and found that the islander did love beautiful things; wherever a new house was erected in the country, a rambler rose was also put up.

It was reported that examples of the worst ribbon building development in the island had been forwarded to headquarters for inclusion in the report to the Ministries of Health and Transport. Captain P. D. Macdonald, M.P. for the Isle of Wight, had intimated his willingness to support the views of the Council in connection with proposed legislation to check this evil. Sir Vere Hobart was re-elected Chairman.

## SOCIETY OF CHEMICAL INDUSTRY.

### "Porous Building Materials" and "The Decay of Wood."

Two papers were read before a recent meeting of the Road and Building Materials Group of the Society of Chemical Industry in London. The first of these, by Mr. B. H. Wilsdon, M.A., B.Sc., of the Building Research Station, dealt with "Problems of Porous Bodies and their Behaviour as Building Materials," at the beginning of which the lecturer pointed out that most building materials which it was economic to employ were porous, and it was their porosity which largely determined their liability to deterioration by weathering. Mechanical strength, he said, was not a criterion of resistance. The physical behaviour of porous materials was to be referred for the most part to the capillary actions which resulted from liquid held in the pores, and might be defined in terms of permeability, suction and the mechanical effects produced by wetting. Explanations of such behaviour had been sought in relations between the geometry of the porous solid and the surface tensions and curvature of liquid films as a function of its moisture content. The Kelvin equation then enabled a relation to be deduced between suction and vapour pressures. Experiment showed such theories to be inadequate, and evidence from several directions tended to show the existence of anomalies necessitating the conclusion that thin films of liquid in porous solids did not obey the Kelvin equation. Mechanical effects might be produced in porous solids, both by liquids and solids, which seriously affected their durability. The unrestrained movements which it had been customary to measure were of less significance than the available work involved, measurements of which were now possible; results had shown that the forces necessary to restrain completely the movements of several typical porous building materials were remarkably small.

The action of solids, as by frost action or by the crystallisation of salts, said the lecturer, appeared to be due mainly to rapid changes of state. Recent work showed that undercooling of frozen water, or delayed transition such as was involved in the hydration of sodium sulphate, were much accentuated in microporous structures. It was suggested that this might prove to be the reason why many highly microporous materials displayed poor resistance to weathering while corresponding coarsely grained material was resistant. In conclusion, the lecturer urged that a deeper knowledge of the properties of liquids in finely pored materials must help to distinguish good material from poor and to secure intelligent use.

### The Decay of Wood.

In the course of a paper on this subject, Dr. E. A. Rudge, M.Sc., said that there was no other industry which depended to so great an extent upon trial and error empiricism as that of timber preservation and seasoning. An attempt had been made to determine the factors which might be considered common to a number of examples of decay, and the major conclusions drawn from the investigations led to the formulation of a theory of decay based on ionic infiltration, which claimed that in its incipient stages decay was brought about by the invasion of what had been called the "ligno cellulose complex," by bicarbonates in solution. The complex was rendered unstable to atmospheric conditions and thereupon gave rise to degradation products. Seasoning now assumed a new significance, for modern methods of kiln-drying were, as a rule, hit-and-miss processes, devoid of scientific basis. From the standpoint of the new theory the prevention of fungus attack was not the sole function of a successful preservative. Creosoting was to-day practically the universal method of timber preservative treatment. Observations, however, indicated that the existing meaningless and arbitrary specifications for creosote might profitably be replaced or augmented by one expressing not only the toxic character of the material, but also such physical properties as surface tension and viscosity of the higher and less volatile characters, since these would have reference to the efficiency of the creosote as a whole.

In the application of timber to building construction, the great importance of maintaining it out of contact with lime, plaster and concrete was generally recognised. From the viewpoint of the infiltration theory the reasons were obvious, but it should be borne in mind that the situation had also to provide sufficient moisture before decay could begin. It would be appreciated that the character of the concrete very considerably affected the life of the timber embedded in it, yet notwithstanding the well-established and pernicious effect of damp concrete and the repeated recommendations of research departments, it still remained a common practice to lay floor joists direct upon a concrete of high permeability. In considering the interesting facts of relative resistance to decay shown by various kinds and species of timber, the lecturer said that the more putrescent woods were usually readily penetrable by water, whereas the resistant timbers were close grained and exhibited merely superficial penetration unless immersed in water for lengthy periods. Further inquiry pointed to the general conclusion that timbers with a high silica content, such as teak and greenheart, were more resistant to decay than those low in silica. "From consideration of the two factors, moisture and availability of mineral matter," said Dr. Rudge in conclusion, "it may be considered within the bounds of possibility to forecast the behaviour of wood exposed to any given set of conditions, and conversely to eliminate the tendency to decay by adjustment of the circumstances of usage."

# LAW REPORTS

CHANCERY DIVISION.
Before MR. JUSTICE CROSSMAN.

## WEST END ANCIENT LIGHT DISPUTE.

### Fishenden v. Higgs and Hill.

This was an action brought by Mr. Reginald Charles Fishenden, of 8, Chesterfield-gardens, London, W., against Messrs. Higgs and Hill, Ltd., builders and contractors, of Crown Works, South Lambeth-road, S.W., for an injunction to restrain the defendants from erecting or continuing to erect any buildings in Chesterfield-gardens, so as to cause a nuisance or illegal obstruction to the plaintiff's ancient lights in No. 8, Chesterfield-gardens, as the same existed before the pulling-down by the defendants of the buildings known as "Chesterfield House" in the City of Westminster.

The plaintiff also claimed a mandatory order directing the defendants to pull down so much of the new buildings erected by them in or near Chesterfield-gardens so as to cause a nuisance, obstruction, or interference with the plaintiff's ancient lights. The plaintiff further claimed damages.

A report of the earlier stages of the hearing appeared in our last issue.

When the hearing was resumed on Thursday, April 11, Sir Patrick Hastings continued his closing address on behalf of the defendants. He submitted that it was for the plaintiff to show that he had suffered an actionable nuisance by reason of the defendants' proposed building, and it was not for the defendant to show that he had not. A plaintiff did not show that he had suffered an actionable nuisance if his evidence only amounted to proving that he enjoyed the same light as other people living in the same neighbourhood. The evidence was that the plaintiff enjoyed the same light as others living in his neighbourhood, and his (counsel's) contention was that, on the evidence which had been given, his lordship could not find that there was an actionable nuisance. He further submitted that, in the event of a finding that there was an actionable nuisance, the only relief to which the plaintiff was entitled would be damages which should be small.

Sir Herbert Cunliffe, in replying for the plaintiff, submitted that it had been laid down by the Court of Appeal, with reference to the suggestion that there was no actionable nuisance so long as an ancient light was left with 45 degrees of sky, that the sooner that idea was got rid of the better. The theory of the 45 degrees only arose because a Chancery Judge was once misled by an Act which corresponded to the London Building Act, and it was only in vogue for a little while. It was a fallacy to argue that a right to ancient light was in any way to be measured, controlled, or qualified by the height of the dominant owner's building. The second fallacy was that a plaintiff must be reasonable. The only question was what were his rights? Another fallacy was that the London Building Act enabled buildings of a height equal to the width of the street to be erected. That Act dealt with sanitation, not ancient lights. A further fallacy was that the average amount of light enjoyed by other owners in the vicinity was the measure of what the plaintiff should have. Averages had nothing to do with it.

The question for decision was whether the defendants' building, if erected as proposed, would be a nuisance to the plaintiff's ancient lights. If the case had been tried by a jury that would be the question which his lordship would have to ask the jury to answer. His lordship would then have to direct the jury as to whether there had been a substantial privation of light. He submitted that the evidence established that the plaintiff's tenants would be made uncomfortable by the privation of light according to the ordinary notions of mankind.

His lordship said that the question he had to ask himself was whether the deprivation amounted to a nuisance.

Sir Herbert: Yes, and whether the plaintiff's tenants were left with sufficient light according to the ordinary notions of mankind. That question is answered by the evidence that in certain of the plaintiff's rooms the occupants were left with insufficient light for ordinary residential purposes. That in a measure was answered by the plans.

His lordship said that the way he proposed to direct himself was whether there was a diminution of light and whether that diminution amounted to a nuisance.

Sir Herbert agreed, and submitted that once it was proved that there was a diminution of light, and that the amount of light left was insufficient for ordinary residential or business purposes, the 45 degrees angle had no application whatever.

### The Judgment.

His lordship, in giving judgment, said it was a difficult case in some ways to decide. The plaintiff, Mr. Fishenden, brought the action for an injunction to restrain the defendants, Messrs. Higgs and Hill, Ltd., from so erecting their building as to cause him annoyance by obstructing his ancient lights. Mr. Fishenden was the leaseholder of his house and would have it on his hands for at least 21 years from Christmas, 1930, at a rental of £1,500 per annum. He lived on the premises, and he complained that with the defendants' building only partly erected he had to eat his lunch by artificial light, though formerly he had daylight, and that lights had to be lit in other rooms an hour earlier than was formerly the case. Having referred at some length to the rooms which the plaintiff alleged had been affected by the defendants' building, his lordship said that the defendants admitted that all the windows of those rooms were ancient lights except the fanlight over the hall door. He (the Judge) was not prepared to hold that the excepted light was an ancient one. With regard to the other windows he said the evidence had been given by other people living in the house as to the diminution of light and by others as to the effect the defendants' building would have on the rooms in the plaintiff's premises. The defendants, as he understood it, admitted that the erection of their building would cause a substantial diminution of the light in the plaintiff's rooms; but alleged that the light left was sufficient for ordinary residential or business purposes. The question for decision was whether the obstruction or interference amounted to an actionable nuisance. It was, he thought, now established on the authorities that the plaintiff was not entitled to retain in perpetuity the same light he had formerly enjoyed before the old building (Chesterfield House) was pulled down; but that what he was entitled to was the amount of light required for the ordinary purposes of inhabitancy of his premises according to the ordinary notions of mankind. That was the result of "the Colls case," decided by the House of Lords in 1904. He thought it was clear from the evidence that the plaintiff had suffered such an interference with his light as would decrease the letting value of the rooms in his house, and constituted an actionable nuisance. He accordingly held that the plaintiff had established his right to relief in respect of his four rooms referred to as Nos. 1, 2, 4, and 6, and then the question arose as to what remedy he was entitled to, *viz.*, whether an injunction or damages Having regard to all the circumstances, he could not find that the injury to the plaintiff was small and which could be adequately compensated for by a small money payment. He saw no alternative to granting the injunction asked for and to order the defendants to pay the costs of the action.

Judgment was entered accordingly.

On the application of Mr. Andrew Clark for the defendants, his lordship suspended the mandatory order on the defendants to pull down and remove so much of the building already erected by them conditionally on notice of appeal from his judgment being given within seven days. He expressed the hope that some arrangement would be come to with a view to preventing men from being thrown out of work more than was necessary.

After some discussion his lordship gave leave to counsel to mention the matter to him on a later day if it was found impossible to come to an arrangement.

On Monday, the 15th inst., Mr. Andrew Clark, for the defendants, told his lordship that as a result of his judgment about 70 of the defendants' employees had been dismissed from the building, and that further discharges before Easter were contemplated if some arrangement was not reached.

After some discussion in Court, his lordship was informed that an arrangement as to the extent to which the defendants' building should proceed (pending the hearing of the appeal) would be reached and expressed in the form of an agreement to be endorsed on counsels' briefs.

CHANCERY DIVISION.
Before MR. JUSTICE BENNETT.

## SEQUEL TO A WIMBLEDON TOWN PLANNING SCHEME.

### Cockburn v. Thol.

This was an action by Miss Violet Fanny Clayton Cockburn, of Cecil Court, Lingfield-road, Wimbledon, Surrey, against Mrs. Laura Louise Thol, of "Redcourt," Peek-crescent, Wimbledon, for specific performance of an alleged agreement to join with the plaintiff, Miss Cockburn, in making such application to the Town Planning Authorities of Wimbledon as was required for the purpose of enabling the plaintiff to erect a dwelling-house upon certain land belonging to her.

Sir Herbert Cunliffe, K.C., for the plaintiff, said that his client, until June last year, was owner of the freehold of "Redcourt," and about two roods 18 perches of land, including the land upon which "Redcourt" stood. The plaintiff sold, in July 1934, "Redcourt" and one rood and 28 perches of land to the defendant, Mrs. Thol, for £3,250. The conveyance, which was dated July 14, 1934, was subject to covenants fixing the position of a house to be erected by the plaintiff on a portion of the land retained by her, and also to a covenant in relation to the building density fixed by the Wimbledon Town Planning Scheme, that the defendant would not erect any other building on the land she had purchased. The importance of this, said counsel, was that under the Town Planning Scheme for this particular area, the building density was limited to four houses per acre. The plaintiff's case was that it was part of the bargain that she could erect a dwelling-house on the land she retained, and that that position was reflected in the price at which she sold "Redcourt" and the remainder of the land to the defendant. If you took, said counsel, one rood 28 perches from the two roods 18 perches it left 30 perches, which was less than the quarter of an acre which was treated as the land unit under the Town Planning Scheme. The object of the action was to require the defendant to concur with the plaintiff in making the necessary application to treat the two plots as one unit so as to enable the plaintiff to erect her house. This the defendant had refused to do, although it could do no harm to her, as she was under covenant not to build further on her land.

The plaintiff wanted the defendant to join in an application to the Wimbledon Town Council that they should treat the two plots for the purposes of density so that a second house could be erected on the half-acre, *viz.*, that the two plots might be deemed to be one land unit. Unless the defendant did this, the plaintiff could not build her house.

His lordship observed that it would have been very easy to have expressly stipulated such a provision in the conveyance, and which it appeared he was asked to imply.

Sir Herbert Cunliffe said that it ought to be implied in the conveyance that the defendant agreed, for the purpose of enabling the plaintiff to build the contemplated house, that the two plots should be treated

as one, and that the defendant should join in whatever application was necessary to the Town Planning Authority.

Mr. T. Webster, the Borough Engineer and Surveyor, gave evidence that the plans submitted by the plaintiff were disapproved because the area was less than the quarter-acre required under the Town Planning Scheme.

Cross-examined by Mr. Christie, K.C., for the defendant, Mr. Webster said that if the plaintiff had made her application before her sale to the defendant, it would have been granted.

At the close of the plaintiff's case, Mr. Christie said that before addressing his lordship for the defence, he would call the defendant's husband, Mr. Ernest James Thol, who, examined, said he had negotiated the purchase of "Redcourt" and land on behalf of his wife. He said that at that time he had never heard of the Town Planning Scheme, but he knew that the plaintiff was intending to build a house on the remainder of the land. Cross-examined, he may have read about the Town Planning Scheme when he got the draft agreement in June, 1934.

Mr. Christie said he did not intend to call any further evidence, and submitted that the plaintiff had not proved any express or implied agreement by the defendant to join with her in making the application to the Council as suggested.

At the conclusion of the arguments of counsel, his lordship, in giving judgment, said that the only question he had to decide was whether there was an implied obligation on the defendant to join with the plaintiff in making an application to the Borough Council under the Town Planning Scheme for the purpose of enabling the plaintiff to erect a house on the reserved land. In his opinion there was not. It had been laid down by the late Lord Justice James that people should look after their own interests and frame their own contracts so as to stipulate what they really meant. He proposed to follow that decision of the Lord Justice, and he therefore decided that the plaintiff's action failed, and would be dismissed with costs.

KING'S BENCH DIVISIONAL COURT.

Before the LORD CHIEF JUSTICE and JUSTICES AVORY and HUMPHREYS.

## RATING REVALUATION OF SHOPS. TEST CASE.

### Lilley and Skinner, Ltd., v. the Southern Essex Valuation Committee.

In this case Messrs. Lilley and Skinner, Ltd., boot and shoe factors, of High-street, Ilford, appealed against a decision of Essex Quarter Sessions in favour of the Southern Essex Valuation Committee.

It was stated that the decision affected the rating of 1,200 shops and thousands of houses in Ilford, and that up to 1933 shops and houses were rated on the same level. Later, the local Assessment Committee raised the assessments of the shops, but allowed those of the houses to remain untouched.

It was argued that the shop owners had a grievance and that they were entitled to demand that the list be quashed, or so amended that the assessments might again be uniform.

The Court dismissed the appeal.

The Lord Chief Justice, in giving judgment, said it was admitted that the assessment of the shops was now fair, and that of the houses below the standard, yet the appellants contended, not that those who were below should be raised to the proper standard, but that the shops which were properly rated should be reduced. In his opinion it was impossible for the Court to substitute for a correct figure one that would be incorrect.

Justices Avory and Humphreys concurred, and the appeal was accordingly dismissed with costs.

Mr. Michael Rowe appeared for the appellants, and Mr. Comyns Carr, K.C., and Mr. E. D. Levy for the respondents.

# YOUTH AND UNEMPLOYMENT

THE Report on the work and future of the Junior Instruction Centres, printed for the Trustees of the Carnegie United Kingdom Trust,* is of such lively interest that we welcome its circulation beyond the immediate friends of the Trust. It has importance for every educational authority and for all parents and employers, and we hope that it may be made available for general circulation.

The task of educating young people who are unemployed is complicated and difficult. Loss of morale, lethargy, depression and resentment have all to be forestalled, and the instruction given must be combined with the fullest scope for general development of body, mind and character. Lord Elgin, in his preface to the Report, explains that the Carnegie Trustees have sought to encourage the extension of the club movement among boys and girls, and they have now to formulate a policy for the coming years, when an exceptionally large number of children will pass from school at the age of fourteen onwards to an already overcrowded labour market. In addition to various voluntary organisations, the Government has sought to provide a service in the form of Junior Instruction Centres, and the Trustees desire to equip themselves with a survey of the Centres actually at work. The Ministry of Labour and the Board of Education have co-operated generously in the enterprise, and the London County Council allowed Mr. Valentine Bell, Principal of the Battersea Day Continuation School, six months' leave of absence to prepare the Report, which was drawn up after a tour of the various Centres in different parts of Great Britain. The Report is primarily intended to assist the Trustees in their inquiry whether there is any service which is not offered by the official organisations which can yet be rendered by well-directed voluntary effort. The Trustees have found Mr. Bell's survey so extensive and helpful that they decided to make it available to other agencies.

The establishment of Junior Instruction Centres has been an emergency service carried out by temporary (unpensionable) staffs, generally in makeshift, unsuitable buildings. The pupil personnel has been miscellaneous and fluctuating, yet (in the words of the Report) "there can be no doubt that in face of all difficulties, they have attained a remarkable measure of success in their declared object of 'preventing deterioration, and of facilitating the reabsorption of the boys and girls into industry by maintaining or re-establishing, through further education or training, habits of discipline and self-respect.'"

The time has now come to consider whether the emergency is not to be a permanency. Admittedly, in some three years' time there will begin a marked shrinkage in the number of school-leavers and more employment will probably be available to children immediately on leaving school. It is, however, between the ages of 18 and 22 that the work shortage becomes acute, and this factor must influence the future activities of the Centres, though they are not, and cannot be, the whole solution. The Centres may properly be regarded as one aspect of the whole problem of post-elementary education, calling for institutions with different objectives and different methods, but (suggests Lord Elgin) "it should be conceived as one service, and there ought to be throughout the fullest possible interchange of experience and of staff . . . in that event two important preliminary questions arise; one is the provision of buildings, the other the recruitment and training of staffs. There remains the matter of the relation of official to voluntary work. It is evident that there should be the fullest liaison between the two, and in some circumstances co-operation in the use of buildings and equipment."

* "Junior Instruction Centres and Their Future." A Report by Valentine A. Bell to the Carnegie United Kingdom Trust Printed by T. A. Constable, Ltd.

It would be tempting to quote freely from Mr. Bell's Report, but even the summary covers so wide a field that only a superficial reference is possible. His remarks concerning the type of building likely to be required have a practical application for the building world. The first requisite for permanent utility is a plan capable of adaptability to different uses and users. Mr. Bell doubts whether, in view of the impermanence of juvenile non-employment in certain areas, there will be a desire for much capital expenditure; certainly, a specialised plan would have little to commend it. If, however, juvenile employment is to replace juvenile unemployment, a civilised community must then address itself to the problem of education in the use of normal leisure. There will always be room for a well-designed building where people can have scope for recreation and study. It is, in fact, the absence of such facilities, indoor and out, that leads to most of our social abuses.

Hitherto, the Junior Instruction Centres have "made shift" with existing buildings, ranging from private houses, disused factories and church halls, to temporary huts. Of these expedients, the Elvet Railway Station, Durham, was one of the most successful, with its big hall, large offices, and sufficient lavatory accommodation. The basic requirements are simple enough: "A good hall for physical exercises and assembly, a playing field, spacious craft rooms, and reasonable classroom accommodation, with, of course, proper sanitary arrangements." The plan of letting the lads repair and make equipment proved valuable where it could be adopted. Everywhere the Reports stressed the value of cultural influence, and to this end a well-designed and decorated building must play a conspicuous part. It is a mistake to regard wall surfaces as monotonous fixtures. Much can be effected by rapid mural decoration in washable distempers. Not enough use is made of the students in local art schools in carrying out such ventures. We should like to see the development of Youth Centres in every town, where the fittings and amenities were largely supplied by the users. Appropriate work could be exchanged between the boys and the girls, and the foundation laid of a true communal spirit.

The unemployment Act of 1934 is the eighth scheme developed from past experience to deal with the instruction of young persons between fifteen and eighteen, and it makes the provision of courses statutory upon authorities for Higher Education. This means a great increase in the number of Centres, because non-claimants to unemployment benefit will now be compelled to attend, although a large number already attend voluntarily where facilities are available. This still leaves out of account the difficult years between eighteen and twenty-two, with which at present voluntary organisations alone can deal.

The adjustment of youth to industry and leisure demands all the efforts that State and voluntary helpers together can contribute. To conclude with Lord Elgin's words: The one intolerable situation would be the ignoring of the urgency of the question, and a slackening of the efforts to deal with it."

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### An Advertising "Character."

Those readers familiar with the advertisements of Dunbrik, Ltd., will remember that play is made with a character named "Bricky," whose pronouncements on the "Dunbrik" concrete brick are always followed with interest. "Bricky" has so far been illustrated by drawings, and so much attention has been drawn by these that, following a long search and a chance meeting in the street, a human "Bricky" has been found, photographs of whom will appear in subsequent announcements by this firm. Those who are interested to see him will agree that he is an excellent type.

# ARBITRATION IN BUILDING DISPUTES—XV

By W. T. CRESWELL, K.C.

## The Fees of the Arbitrator.

No particular scale of fees appears to be recognised in law as governing the remuneration of an arbitrator for his services; but, nevertheless, unless he has expressly undertaken to give voluntary service, it is taken for granted that any professional man undertaking the duties of an arbitrator without stipulating as to the payment he requires for his services cannot be presumed to be giving them gratuitously. (See Macintyre *v.* Smith (1913), S.C. 129.) Therefore, if an arbitrator's remuneration is not agreed at the outset, he is entitled, on an implied promise, to remuneration at a fair and reasonable rate; and when the parties have expressly agreed to pay him, and do not, he can also sue in the Courts for this reasonable remuneration. (See Hoggins *v.* Gordon (1842), 3 Q.B. 466.)

If there is a stipulation for an interim payment to the arbitrator for his services, it may be taken that in general he is not able to sue for any payment until he has made his award. It is advisable, therefore, that he should require a deposit of a sum of money to be made to him before entering on the reference. Because sometimes the parties may, pending the publishing of the award, come to an amicable settlement; or they may find, on taking up the award, that the arbitrator's fees are much in excess of what they had estimated and be unwilling to pay those fees. In which circumstances the arbitrator's only remedy is an action in the Courts.

In the past, where the fees have not been expressly agreed, there has existed the rather unsatisfactory practice of the arbitrator fixing his own fees and including them in his award; thereupon notifying the parties that his award is published, and holding it as security until the party who seeks to take it up pays the costs of the reference. It was immaterial which of the parties took it up, for if the party taking it up found he was not liable to pay the costs, he could always recover from his opponent, in the Court if necessary. This procedure obtained for the reason that an arbitrator has a lien on his award, together with any memorandum or valuation obtained by himself for his own guidance, although he has not a lien on documents put before him in evidence by the parties to the reference.

Where fees are included in the award there is, in general, no means of taxing or disputing the amount, as such, fixed by the arbitrator; but if the amount is excessive, application can be made to the Court to set aside that part of the award dealing with his fees. (See *In re* Prebble and Robinson (1892), 2 Q.B. 602.) But when the fee fixed by the arbitrator includes a sum paid out to solicitors for advice on making his award, or for drafting it on his instructions (which bill will include counsel's fees if counsel has been employed), the party whose business it is to pay those fees is entitled to have the solicitor's bill taxed.

In the past, when the arbitrator exercised his lien on the written award in default of payment of fees *not* included in the award but otherwise fixed by him, if they were excessive, the party who had to pay them as a condition of taking up the award could bring an action to recover that sum whereby such fees exceeded what was fair and reasonable.

Section 13 of the Arbitration Act, 1934, gives the Court direct jurisdiction in regard to the fees of arbitrators; arbitrators are prevented from exacting exorbitant fees; where these are not agreed beforehand, they are now liable to taxation by the Courts. Also, the Court may order that the arbitrator must deliver up his award on the applicant paying the fees into Court. At the subsequent taxation by the Court of the fees, the arbitrator is entitled to appear and to be heard. After taxation of the money paid into Court, a reasonable sum is paid over to the arbitrator, and the remainder (if any) refunded to the applicant.

The taxation of fees under this section may be reviewed by the Court of Appeal.

# REINFORCED CONCRETE ASSOCIATION

## THIRD ANNUAL REPORT.

At the third annual general meeting of this Association, held at the St. Ermin's Restaurant, S.W.1, on April 9, the Council for 1935-36 was elected as follows:—*Representing Group A.* (*Designers*).—H. E. Steinberg, M.Inst.C.E., Director of Considere Constructions, Ltd., London (Chairman); A. Kirkwood Dodds, Director of Messrs. Mouchel and Partners, Ltd., London; Douglas H. Green, A.M.Inst.C.E., Director of the Trussed Concrete Steel Co., Ltd., London; H. P. T. Lind, Director of Peter Lind and Co., Ltd., London; C. F. Lunoe (Danish), Director of Holst and Co., Ltd., London; B. Taylor, Director of Johnson's Reinforced Concrete Engineering Co., Ltd., Manchester; R. W. Vawdrey, B.A., A.M.Inst.C.E., Director of the Indented Bar and Concrete Engineering Co., Ltd., London; J. B. Walters, Director of the British Reinforced Concrete Engineering Co., Ltd., Stafford. *Representing Group B.* (*Contractors*).—G. E. Dutton, M.Inst.C.E., Director of L. J. Speight and Partners, Ltd., London; H. L. B. Lovatt, Director of Wilson Lovatt and Son, Ltd., Wolverhampton; A. Melville, Director of Melville, Dundas and Whitson, Ltd., Glasgow. *Representing Group C.* (*Materials and Plant*).—H. H. D. Anderson, Director of the Associated Portland Cement Manufacturers, Ltd., London; R. Ducas (U.S.A.), Director of Winget, Ltd., London; Secretary, R. V. Chate, A.M.Inst.C.E., 91, Petty France, S.W.1.

We take the following points from the report:—

With a view to developing the policy that membership of the Association may be regarded as a "hall-mark," a badge has been adopted. Members in all groups are entitled to use this badge on their letter paper, quotation forms and advertising matter, and they are urged to do so in their own interest as well as that of the Association.

A memorandum on the use of reinforced concrete in hospitals and other public buildings was sent to the Ministry of Health Departmental Committee on the Cost of Public Buildings, and evidence in support of it was given to the Committee by Mr. Douglas Green. A memorandum on the use of reinforced concrete for the construction of working-class flats was sent to the Ministry of Health Departmental Committee on the construction of flats for the working-classes. The scheduling by the railway companies under the Road and Rail Traffic Act, 1933, of over 6,000 weak road bridges over railways and canals would seem to foreshadow the reconstruction of at least a considerable proportion of them, and a memorandum on the use of reinforced concrete for bridges was sent to the Ministry of Transport.

### "The Ruislip Case."

The use of reinforced concrete for the construction of domestic dwellings has met with some opposition from local authorities, partly on the score of appearance and partly on account of its alleged lack of acoustic virtue. A case occurred at Ruislip in 1934 where the urban district council, on the advice of the local panel of architects, disapproved the plans prepared by a well-known architect for reinforced concrete houses. The case was submitted to arbitration and expert evidence was given on behalf of the Association by Mr. H. E. Steinberg. It is satisfactory to be able to record that the Council withdrew its objections and that the houses were built in reinforced concrete substantially in accordance with the architect's original plan.

A statement which was made in Bulletin No. 14 of the Building Research Station (on "The Reduction of Noise in Buildings") was misinterpreted in various quarters to mean that because of alleged shortcomings in its acoustic properties, reinforced concrete ought not to be used in the construction of buildings intended for domestic use, such as flats and hotels. The attention of the Building Research Station was drawn to this misrepresentation, and a note was published by the Station in the architectural journals in January, 1934, stating that: "It is quite definitely *not* the opinion of the Building Research Station that the use of reinforced concrete as such should be banned for the construction of hospitals, flats and hotels. . . . It is important immediately at the start of the design to take appropriate measures to meet acoustic requirements. . . . There is no reason to believe that satisfactory sound reduction cannot then be obtained."

### Research.

A programme of research on concrete and reinforced concrete was put in hand at the Building Research Station in January, 1934. It first made a survey of all the available information relating to the causes and prevention of cracking in reinforced concrete, whether due to load or shrinkage, and presented a comprehensive note on the subject. The problem involves a consideration of the question, "What is a serious crack?" and the distinction is drawn between "strain" cracking under load, for which the reason is known, and cracks in members which are not under load and for which the reason is therefore unknown. It is being attacked in two ways—first by the study of the effects of shrinkage, creep, elasticity and tensile strength separately, the combined effects being estimated mathematically from the results obtained, and secondly by using special apparatus designed to impose suitable conditions of end restraint on the concrete specimens.

Experimental work has also been begun on an investigation into the distribution of moments in concrete frames and members, with particular reference to the effects of "creep" or plastic yield, on this distribution. The essential problem is—how far will the moments in continuous frames be redistributed as a result of creep in concrete? It is known from experimental work already carried out approximately how far the stresses across any section under a constant bending moment are modified as a result of creep. The study of the redistribution of bending moments is one step further. Redistribution may be considered as taking place in two phases: (*a*) distribution at working stresses, and (*b*) distribution when one portion of a beam is approaching yield in the steel or ultimate stress in the concrete. The approach to (*a*) is being made with the simple case of a fixed ended beam in which the end slopes are maintained constant by the application of an adjustable moment. In the case of (*b*) the first tests are being made on a continuous beam of two spans with sections of varying strength at the centre support, the varying strength being obtained by changing the amount of tensile steel, the amount of compression steel, and the quality and section of the concrete in compression. The experimental work which is being done under this head is being followed by Mr. Vawdrey and Mr. Steinberg, who have expressed the opinion that the results will be of great interest.

It has been suggested that while the architectural design of reinforced concrete bridges reaches a high standard in important cases, the general level of design of the lesser bridges is capable of improvement. A Committee has been set up to consider and report.

### Production of Concrete.

At the close of the meeting Messrs. R. Walker and W. J. Jamieson, of Glasgow, explained and demonstrated a model of a plant they have devised and patented for the gradation of concrete aggregates and the production of economic concrete. The object of the plant is to separate out the various sizes of aggregate particles and re-combine them in such proportions as to produce an aggregate graded according to any required specification.

# CONCRETE PIPES

## THEIR USES AND MANUFACTURE.

In a paper read before the Institution of Sanitary Engineers on "The Manufacture of Stoneware and Concrete Pipes and Their Uses," Mr. Cyril Poole, A.C.G.I., gave some details of the history of pipes and conduits.

After a short sketch of manufacture of stoneware pipes in England, the lecturer dealt with the manufacture of concrete tubes. These, he said, were first made in this country at Parkstone, Dorset, in 1875. Among the earliest users were the Hove Improvement Commissioners, and rock-concrete tubes had been continuously made and used ever since, both for sewage and surface water drainage. The Hove sewers had, therefore, now been in use for a period of 58 years. Concrete tubes were made with O.G. or rebated joints, and concrete pipes with spigot and socket joints. The length of pipe or tube varied from 3 ft. to 8 ft., the most convenient lengths being 3 ft. or 6 ft., as in a deep trench which was closely timbered an 8 ft. long pipe could only be lowered by withdrawing two struts, whereas a 6 ft. could be got in by taking out only one strut. Concrete tubes could be circular or egg-shape in cross section. Circular tubes ranged from 4 in. up to 96 in. in internal diameter and egg shape from 12 in. by 18 in. to 44 in. by 66 in. Tubes were made from Portland cement, "Ferrocrete" or Ciment Fondu, the large aggregate in most cases being washed and crushed granite graded from $\frac{5}{8}$ in. to $\frac{1}{4}$ in., the smaller aggregate being clean pit or washed sharp sand. When considering tenders, the question of the aggregate offered should receive very careful consideration, because limestone would not withstand the action of even mild acids, and soft or very small aggregates could not produce a strong pipe.

### Processes of Manufacture.

There were four main processes of manufacture: (1) Tamping, (2) vibrating, (3) centrifugal, and (4) rotating compression. The tamping machines generally consisted of a rotating table on which the mould was placed. Concrete was fed into the mould at a fairly uniform rate and consolidated by steel tampers which tamped the concrete as the mould revolved or vice-versa. There were two methods of tamping, either a light fast tamper and a quickly revolving mould or a heavy slow tamper and slowly revolving mould. The former process tended to give porous pipes and not such a good finish as was obtained with the heavy tamper. Sockets were formed by a cast-iron ring in the bottom of the mould and the spigot might be formed in two ways. One was to place a heavy cast-iron ring on the concrete when the mould was full and drive it with heavy mallets between the core and the case, thus forming the spigot of highly compressed concrete. This produced a very well-consolidated and finished spigot. The more general practice was to place some fine aggregate and wetter concrete round the top of the tamped tube in the machine and work a spigot ring backwards and forwards until a suitable spigot was formed, the ring being either left on until the tube was set or removed at once. The latter produced a slightly roughened surface.

With the vibratory process the moulds were placed horizontally on a large vibrating table similar to that employed for making slabs and filled through a large opening running the whole length of the mould. Spigots and sockets were formed by steel rings integral with the mould.

The centrifugal process was originally introduced into this country by an Australian, Mr. Hume. It consisted of moulding the concrete by centrifugal force. The moulds were fitted with flat steel rings and were placed horizontally on two sets of rollers which rotated at a uniform speed; this in turn caused the mould to rotate. Concrete was fed into the rotating mould and by centrifugal force flung against the inside of the mould, which was fitted at each end with steel spigot and socket rings, which helped to retain the concrete. The larger aggregate was naturally forced to the outside of the tube and the smaller to the inside. The surplus water and air were forced out by the centrifugal pressure and the surplus cement formed the inside film. When this stage was reached an angle-iron bar was slipped through the rotating mould and smoothed down the inside of the tube to the correct diameter. Spinning was stopped and the surplus cement and water, etc., allowed to run out. One firm which used this process then started the mould revolving again and introduced a polished steel burnishing bar and thus obtained a smooth internal surface. The mould was then stopped and removed from the machine with the completed tube in it. The total time for the whole process was about three minutes.

The rotary piston process was the latest process to arrive in this country. There were two general types of working these machines; in both types an internal core was replaced by a rotating cylinder or piston. The mould, fitted with a socket ring, was placed on the machine and the piston lowered into the mould, thus replacing the core. In the earlier type of machine operated in this country the piston was slightly longer than the pipe to be made and, while revolving, concrete was fed on to the piston and lightly tamped down between the outside mould and piston by wooden tampers until the mould was filled, when the rotating piston was withdrawn. The action of the piston was to draw the cement and sand to the surface, and under the heat generated by friction this was brought to its initial set, so that after the piston was withdrawn the finished tube would stand up by itself. In the later type of machine two steel knives were fitted to the piston and, to commence making a pipe, the piston was lowered to the base of the mould and, on being rotated, the concrete was forced by the knives against the outside of the mould. When the concrete was consolidated sufficiently the pressure exerted by the knives was sufficient to lift a portion of the piston weight, the rest being taken by a counterbalance weight. Thus, as concrete was fed in, the piston gradually rose until it reached the top of the mould. The completed tube was then removed from the machine.

### Concrete Pipes and Corrosion.

A lot had been heard recently regarding the corrosion of concrete tubes when carrying sewage. That a good tube would carry sewage indefinitely was proved by the fact that concrete tube sewers were still in use which had carried sewage for nearly sixty years. With under-surface water a slight natural scour was obtained in the invert, but this was no greater than occurred with stoneware pipes and depended very largely on the gradient of the sewer, velocity of the flow and amount of grit carried off. It was a well-known fact that water containing humic acid would definitely attack concrete tubes, but this acid was only found in peat water or water coming from a peaty source. These conditions only obtain in moorland country, so that, so far as sewerage schemes in general were concerned, no fears need be entertained in regard to the use of concrete tubes for sewage conveyance. In the Epsom area the presence of the salts in the soil interacted with the lime in the pipes and formed crystals. This crystal action would continue through the pipe until the tube was penetrated and a stalactite was formed in the pipe. This crystal action could only take place where the salt could enter the concrete through openings in the skin of the tube. Aluminous cement would not interact in this way, but only Portland or rapid-hardening cements. Thus there were three ways in which to prevent this action—either to use tubes of such dense concrete that there were no openings for the salts; or, secondly, to make the tubes of aluminous cement; or, thirdly, to fill all possible rough placed on the outside surface with some material that was unaffected by the Epsom salts. The most satisfactory method was to spray the outside with three coats of bitumastic solution.

# THE BRITISH INDUSTRIES FAIR

A correspondent writes:—The Engineering and Hardware Section of the British Industries Fair opens at Castle Bromwich, Birmingham, on May 20, and continues until May 31. This is the first year since it was first organised that the section has not been held simultaneously with the British Industries Fair in London. It is a larger display than ever held before in this section of the Fair. Particular attention has been paid this year to the layout and design of the stands, so that the visiting buyers will be able to see all they want to see with the least amount of trouble.

In the Building and Heating group, the manufacturers of Britain have their opportunity to show what they are doing to meet the special needs of modern building, either for homes or for other purposes. This is the section which displays the newest ideas of all the industries connected with heating and cooking. National activity in housing, especially housing for the people who are leaving overcrowded areas, is having its effect on the building industries. First of all the manufacturers are paying much attention to price and matters like fuel costs, especially in the case of cookers, and the heating of the small home. The problem of cooking a meal for six people at low cost is being studied by the manufacturers of grates and stoves, whether for coal, coke or oil burning, for gas or electricity. The small home, too, where the need for conserving space is great, has also produced the demand for such articles as a combined bath and lavatory. A new type of dampcourse will be shown by manufacturers who claim that it should remove the distrust which some authorities have shown towards bitumen dampcourses. It is made in all wall widths and in two weights and thicknesses.

Another idea which is becoming more popular in this country is the concrete brick, in a variety of colours. The porosity of the concrete brick is 7 per cent., compared with 20 per cent. for most bricks.

A company is showing modern faience fireplaces made in large blocks instead of small tiles. Some slabbed brick fireplaces designed by architects for a competition organised by the Building Centre will also be exhibited, Another exhibitor will show fireplaces incorporating two stainless steel drawers, each drawer large enough to hold two pairs of slippers.

New types of doors will also be seen. One of them is a balanced door which, in the smaller sizes, can be raised with one finger, and another manufacturer will exhibit fire-resisting doors of four types which save space in the width of the opening. A new synthetic paint is described by its manufacturer as a paint which enables a house to be decorated in three-coat work in one day, and yet is most durable.

Among sanitary fittings there will be a combined bath and lavatory to fit in a space 5 ft. 6 in. over all, and there are three new types of chemical closets of special interest to building contractors, camping parties, aircraft builders, and country house-owners.

### Heating Plant.

The exhibits in the heating section again produce a number of new developments. There are automatic coal stokers for central heating boilers or for works, controlled by thermostats or by pressurestats, so as to give uniformity of room temperature or of water temperature or of steam pressure. Patent pressed steel hot-water radiators are now being made in this country, and will be shown.

There will be a new type of electric fire of the reflector type, introducing screens which are illuminated with a warm glow by means of light. A manufacturer of "dual purpose" grates will draw attention to a model specially produced for working-class homes A coke range which will provide cooking for from two to thirty people at a fuel cost of about 4d. a day is portable, and can be put in any position where a flue outlet is available.

# THE WEEK IN PARLIAMENT

## Ribbon Development.

In the House of Lords, Lord Lothian asked on what date His Majesty's Government would introduce the Bill dealing with the urgent problem of ribbon development, and moved: "That in the opinion of this House it is essential that the protection against ribbon development in rural areas given by the Bill should include within its scope the greatest possible number of roads." He said that his object was to try to bring home to the Government that there was a very strong demand that the legislation on this subject should be introduced at once and passed into law this Session. No fewer than three out of four motor-car accidents took place in built-up areas. It was too early to form a judgment as to the 30-mile-an-hour limit, but the results in the first two weeks suggested that it was not a remedy. The evil of ribbon building was defeating the very purpose for which immense expenditure had been made on the roads of this country.

Lord Bayford said that the County Councils Association supported the motion strongly and would welcome legislation. Ribbon development made the roads not only ugly but dangerous. There was general agreement that when legislation was brought in it should be prohibitive legislation. It should effect that at a specified distance from certain roads houses should not be built until the consent of the highway authority was obtained. The onus should be on the builder to obtain permission, and not on the authority to object. It was of great importance that it should be positive and not negative legislation. Time was the essence of the matter, and this measure was long overdue.

Lord Elton said that he regarded the ugliness of ribbon development as in the last resort more sinister even than the threat to human life and the economic waste of which it was admittedly the occasion. There was the immense moral ugliness of these thinly strung dwellings in which no community life would be possible. The danger of purely permissive legislation was that certain local authorities still suffered from the chronic illusion that an increase in population was the over-riding interest of the entire population.

Lord Esher said that delay was proving fatal: it was hurrying up the building of houses along main roads. Was it possible for the Government by administrative Order to anticipate their measure and stop this building?

Lord Crawford said that ribbon development was an offence against the social system of our country, and the Government were throwing away millions of pounds by their senseless and unjustifiable delay.

Lord Howe supported the motion from the point of view of motorists and said that what the country really needed was an entirely new road system.

Lord Munster, replying for the Government, said that the Government were well aware that a further Bill was necessary if the whole country was to act in uniformity. He would remind their lordships of some of the difficulties with which the Government had to contend in drawing up such a Bill. The final effect of the Bill must be seriously taken into consideration before its introduction. Great care must be taken to insure that it would not seriously hamper the proper development of any land bordering on main roads or roads in rural areas. The interest of the Central Government was greatest, of course, in the classified roads, but they were fully alive to the danger that if restrictions were enacted to deal with the classified roads, speculative development might be pushed on to other roads in rural areas that were uncontrolled. It must be recognised that for any remedy to be effective it must deal equitably with the many interests involved. The machinery which would be brought into use must be carefully understood not only by those authorities called on to work such a measure, but equally by others whose activities were brought under review in the Bill. Any such measure of control as might be necessary must not be burdensome to the landowner nor involve any unnecessary or heavy expenditure to the authority.

Although it was hoped very shortly to introduce a measure dealing with ribbon development—the date of which, unhappily, he was not yet in a position to give—it would have to deal with these questions simply, effectively and speedily, and with due regard and concern to the many and numerous interests involved. On behalf of the Government he was happy to accept the motion.

The motion, with an amendment by Lord Mottistone to the effect that: "And that the necessary legislation be introduced this session," was agreed to.

## The Housing Bill.

Discussion was continued, in the Standing Committee of the House of Commons last week, on the Housing Bill, and on the proposal in the Bill to reduce to £800 the amount that local authorities may advance to a person for house purchase. At a previous sitting, Mr. Strauss, on behalf of the Labour Party, had moved to omit the clause.

Mr. Shakespeare, for the Ministry of Health, now explained that the main point which actuated the Government in fixing the figure at £800 was the cost of building. In pre-War days the amount of the advance that could be given by a local authority was £400. After the War, when the cost of building was inflated, the figure was raised to £800, and in 1923 it was raised to £1,200. By fixing the figure at £800, local authorities would be able to satisfy the same class of persons who were satisfied with an advance of £400 in pre-War times. It was a mistake to utilise public credit to compete with other agencies, provided those agencies could offer the necessary facilities. He did not think it was fair to private enterprise that taxation should be imposed to enable local authorities to offer better credit facilities and thus cut out competitors. With reference to the proposal that there should be a differentiation between London and the Provinces, such a differentiation had never been made, and it would not be advisable to establish it now.

Mr. Strauss's amendment was rejected by 27 votes to seven, and a further amendment that the figure should be £1,000 was also rejected by 23 votes to seven. The figure of £800, therefore, stands.

The Committee then discussed a proposed new clause to give property owners a right of appeal to the county courts against clearance orders. Mr. Lees-Jones, in moving the new clause, said that it was felt by many property owners that the inquiries held by officials of the Ministry of Health into applications for clearance orders were not wide enough, in view of the fact that the result of an inquiry might be that property might be taken away from the owner and that the latter had no opportunity to appeal. The medical officer and the sanitary inspector were the prosecutors, the evidence was given before a Ministry of Health official, and finally the Minister of Health acted as the judge. The Minister of Health had said that good houses included in clearance orders were paid for, but it could have been proved before county court judges that many houses that were included in clearance schemes were as good as those that had been exempted.

Mr. Thorp said the proposed new clause raised one of the most important questions in the Bill. Was the practice under the Housing Acts, of denying the subject the right that he had had for many years of going to the law courts, to be allowed to continue? This appeared to be the first step towards the Continental system, under which any case in which the Government was concerned was taken out of the ægis of the ordinary law courts and put into the hands of some tribunal that was not independent of Government interference and control.

The debate was adjourned.

# INQUIRY BUREAU

## QUESTIONS.

### "Tenant for Life": Estate Management Problems.

Sir,—I am grateful to "Trustee" and "Lex" for replying to my question, but I may not have made myself sufficiently clear. The sole point at issue is as to whether a tenant for life may charge to capital the prices that the estate forestry and quarry department would charge to an outside purchaser of fencing and stones, or whether, in view of those charges carrying a small profit, a deduction must be made to reduce the cost to an absolute net, so that the tenant for life may not be said to be making a personal profit. It is a fine point, but one that has been actually raised. Surveyor.

### Wood Lice in House.

Sir,—I should be very glad if you could suggest any remedy for wood lice which appear from time to time between floor boards of a first floor bedroom; at present the trouble is in this room only. As far as we are aware there is no rotten wood in the structure. Is there any remedy that can be tried before taking up boards? The house, which was built in 1909, is in excellent structural condition and is well kept.

A. R.

### Specialist's Work: Loss of Profits.

Sir,—Certain work formed part of a building contract, and at a later date it was ordered by the architect to be omitted by the builder and given to a specialist contractor. The builder has now put up a claim for "loss of profits" on the item. Is this a reasonable charge? It would appear that he might be entitled to a $2\frac{1}{2}$ per cent. as allowed on p.c. sums, but is he entitled to charge for profits when he does not do the work? Are there any reported cases on the point?

Shef.

### Rebuilding a Brick Wall.

Sir,—I shall be greatly obliged if you can tell me what the cost would be likely to be (say, within a couple of pounds) for "Pulling down an old garden wall and rebuilding same. The dimensions are: Brickwork, 303 ft. super, by 9 in. thick; nearly all the old bricks could be used again."

A. 0.

## ANSWERS.

### Stripping Furniture of Stain.

[Answers to "Grey," April 12.]

Sir.—Assuming that the wood can be rubbed down to a fair surface, two coats of knotting varnish should be applied to keep back the stain, after which the various coats of paint or enamel can be safely applied.

Paint.

Sir,—The stain on the surface could be removed by the application of one of the proprietary finish removers. When this has been removed and the wood is dry it should be sandpapered over. If necessary the wood could be bleached white with an oxalic acid solution made by dissolving one ounce of oxalic acid crystals in twelve ounces of water. This should afterwards be washed off with water to which a little vinegar has been added. W. E. W.

### The Setting of Lavatory Pans.

[Answer to "Surrey," April 12.]

Sir,—I have not met this difficulty, but the cause is quite understandable in the case of a wood floor where some shrinkage is inevitable. If this form of rigid joint must be used, the result may be obviated by careful attention during the maintenance period of the job, during which hard wood wedges should be inserted under the pan and tapped in from time to time until the full shrinkage of the floor has become completed, when the base of the pan can be finally packed up.

Construction.

### Oak Beams Required.

[Answer to "Cambridge," April 12.]

[Two replies to this inquiry have been forwarded to "Cambridge."—Ed.]

# THE BUILDING TRADE

## HOUSE DRAINAGE AND SANITARY PLUMBING—XVI

By J. R. TAYLOR.

### MODIFIED PRACTICE (*continued*).

In the last article mention was made of what in America is called a "crow-foot" junction, and we now illustrate this fitting, the diagram being based on that appearing in the Minimum Code, to which we have already referred. In no country in the world is more known about plumbing and sanitation than in Great Britain, but we do seem to be much in need of a good code of practice to explain not only what should be done, but why it should be done in one way rather than in another. The object sought by the users of the fitting referred to above is the reduction of the pull on the branch waste, which, by reason of serving a bath, enters the soil pipe at a point below floor level. In search of economy, the trap and waste ventilation is reduced to such an extent that any considerable pull would endanger the trap seals. Consequently, under these conditions, the waste branch must not enter the soil pipe just below the closet branch, for if it did it would certainly be subjected to a severe pull, as it is at this point in the soil pipe that maximum is attained. But it has been shown by experiment that if the waste connection is made only an inch or two higher than the invert of the closet branch, the pull will be so small as not to endanger the trap seals. The same object could be attained by entering the closet branch at a point well below the ceiling of the apartment underneath, and as the soil pipe will usually be in this apartment, there would not always be much to urge against this method.

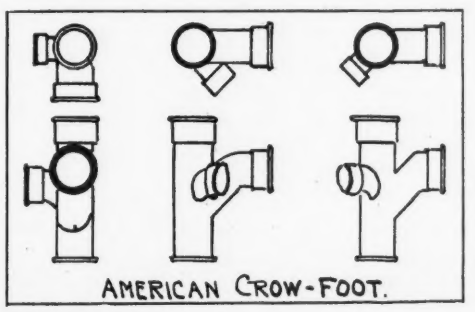
The diagrams given last week showed considerable lengths of horizontal waste having but very little fall, through which at intervals warm and sometimes hot water would pass. Lead when heated expands, but on cooling does not make a full recovery, and under recurring conditions it creeps. As most plumbers know, this accounts for the wrinkles that form in lead-lined sinks, and the looping in lead hot-water pipes that travel horizontally and are only supported at intervals. Similar looping in waste pipes having so little fall would be of grave importance, for small quantities of water would be held back and deposit a sediment that would be detrimental to the pipes. Consequently, though lead piping has many good qualities, it is not suitable for these wastes; for even though it be provided with continuous support, as, for instance, by means of a wood fillet, the growth of length will still take place, and cause trouble. It is said that galvanised-iron piping has but a life of 30-35 years, and it may be that under good conditions this would represent a fair average on which to base calculations. This material has been known to be in very good condition when taken out after being in use for about thirty years in domestic water services; but the writer would not trust it in this work, for the continual wetting and drying of the interior must have a detrimental effect. In these small installations there is not a great length of piping, and copper for the waste and pressure-release pipes would add little, if anything, to the cost.

### Ventilation.

During the last few years much has been said as to the alleged necessity for securing a circulation of fresh air through the whole of the piping comprising an installation on the one-pipe system. It is a desirable thing to do, and the older school of sanitarians recognised this, and endeavoured to provide for it by means of fresh-air inlets, extraction cowls, and other devices, but without much success. Then, as now, the soil pipe presented the greatest amount of difficulty, for it was desirable that any moving current of air or gas should travel upwards, with the system at rest, and yet that the inrush of air to replace that driven downwards in front of a discharge should not be impeded. The difficulty thus presented was not insuperable, but to provide means of overcoming it that could be relied upon to operate surely and smoothly over a long period would for ordinary occasions be too costly. It was necessary that a system which was to be backed up with by-laws should be simple and, comparatively speaking, inexpensive. On the whole, where an installation on the disconnected system was carried out with care and skill, simplicity with safety was to a degree attained, but a cleansing current of fresh air of any magnitude was not secured. On the one-pipe system, with its fewer open points, it would be still more difficult to secure. Ordinarily, when we speak of ventilation, the process we have in mind is the replacement of used or fouled air by other air in a pure, or at least much purer state. To ventilate, in any true sense of the word as ordinarily used, we must have a source of supply of comparatively pure air, a means of ingress, a point of egress, and a force that will move the foul air out of and the fresh air into the place or system that we propose to ventilate. Leaving out the fresh air inlet and the intercepting trap, as we are advised is the better practice, there is no source which can be drawn upon for a supply of fresh air to a one-pipe installation save the top of the soil ventilating shaft, or other pipes carried up. If we put in an intercepting trap and a fresh-air inlet, we are even in respect to this matter but little better off; for long before the fresh air thus permitted to enter reaches the ends of, to say nothing of circulating in, the waste and trap-ventilating pipes, it will have been contaminated by contact with the drain and soil pipes. In other directions the interceptor will add to our difficulties. There is, however, a source of pure air at the top of the soil ventilating pipe which, while the system is at work—that is to say, carrying off discharge—is to some extent drawn upon. With the system at rest, the direction of travel of the sewer air, the drain air, and the gases generated in the piping will be upwards. They will travel mainly as the result of expansion, and so make room, not for fresh air, but for other foul air.

### Discharge.

Before we can make even a rough estimate of the amount of fresh air that will be drawn in while discharges are taking place, and of its probable or possible effects, we must arrive at some idea of the duration of time in relation to discharge. We are here concerned with small installations, but the same principles apply to the largest. We may therefore take a ten-person house, with an average daily water consumption of 50 gallons per head, or a total of 500 gallons for all indoor purposes. A lavatory bowl, with a waste pipe of 1¼ in. bore, would be capable of discharging the whole amount of water daily used in eighty minutes, for 500 gallons would measure but 80 cubic feet. As some of the fitments would discharge at a more rapid rate, we should be safe in saying that the installation would be at rest for twenty-three hours out of twenty-four. Consequently, for twenty-three hours, any air that is circulating in the system is foul air, coming from a foul source.



AMERICAN CROW-FOOT.

The amount of pure or fresh air that will be drawn into the system during discharges cannot in ordinary circumstances be measured, nor with reasonable accuracy calculated. The discharge from waste-water fitments will consist of water mixed with air. The amount of air displaced by these discharges will be equal to the volume of water, plus any air that may be drawn in as the result of the formation of a vortex, and any drawn by reason of momentum pull on the anti-syphonage pipe. If the waste branch be short, even this might be an over-estimate, were it not probable that a small quantity of air in the soil pipe would be driven out. The only really important draft on the outer air (as conerned with this part of the subject) will be that made by the discharge from water-closets. It is in respect to these that the most serious miscalculations have been made, by basing estimates of the speed of travel, and consequent rate of ejectment of air, on the theoretical velocity of falling bodies. At one time it was supposed that with very tall buildings it would be necessary to bring the discharge down by stages, to avoid the destruction of the drain at the foot of the soil pipe. We now know that the rate of travel will be about 35 ft. per second, and that only for very short distances will the discharge occupy the full bore of the pipe. But by compressing the air in front of them, and by setting up a pull behind them, these discharges will impart some impetus to the air in the branch waste pipes, and the pressure release pipes attached to them, when the connections are made in the affected area. Even so, the compressed air in front of these discharges will be foul air, and it is this that will be driven up the branch pipes. In the case of an installation of the size we are here considering, the discharge from a water-closet will be completed, and received into the drain, in some four seconds, and thirty such discharges would occupy but about two minutes out of twenty-four hours, if we disregard the time occupied by trail discharges that follow the main flush. Variations in temperature, and other physical causes, occasion some slight movements of the air in the pipes, but the general tendency will be for the air to travel upwards, and it will be fouled air that will so travel, and its exit will make room for the ingress of more foul air. To avoid any misunderstanding, it should be said that in thus dealing with the subject of circulation of air in these pipes, we are not claiming that they do not serve a useful purpose. As we see it, the true purpose of putting in what may be called dry-piping, in that it does not carry off waste, is the preservation of the trap seals. And if this can be effected with less piping, and in simpler ways than those prescribed by the by-laws, then the by-laws should be amended. In the next article we propose to deal further with the subject in connection with trap ventilation, for here the requirements of the L.C.C. by-laws in many cases obstruct improvements that could be introduced with marked advantage. The greater flexibility of the model by-laws would permit of the methods we shall advocate, but as most technical writers and speakers concentrate on the L.C.C. requirements, there is a danger that we shall get into a groove. It has taken nearly twenty years to get away from the intercepting trap, and even now it is often insisted upon where it is nothing better than a potential cause of nuisance.

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### Death Watch Beetles.

Death watch beetles which have been at work for 400 years in the oak roof of the north transept of York Minster are, it is stated, to be exterminated by poison gas and acid baths. Mr. Walter Tapper states that the beetle has attacked almost all of the heavy beams and the bosses—some of them so seriously that "nothing much is left" of the solid timber.

# THE BUILDING RESEARCH STATION

## QUESTIONS AND ANSWERS

THE following abstracts of inquiries* represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry and are not necessarily suitable for general application to all similar problems.

### Moisture Penetration Through Cavity Wall

A request was received from a brick manufacturer for an inspection of a new building in a South Coast town in which severe penetration of water through a cavity wall had been experienced. The request came towards the end of one of the periods of heavy and continuous rainfall which characterised the autumn and winter of 1934-5. Excessive permeability of the bricks had been blamed for the trouble. The wall in question was in 11-in. work, the outer leaf being in hand-made kiln-burnt stocks and the inner leaf in semi-dry pressed bricks. The wall faced almost due south, was about 300 yards from the sea, and had practically no shelter from sea gales. The greater part of the inner leaf of the wall was wet, and the distemper on it was flaking and peeling. The outer leaf and cavity were so wet that, at the time when the inspection was made, water was still dripping from weep holes over a lead damp-proof course at first-floor level, though there had been no rain for 24 hours. As far as possible, the condition of the wall ties was examined by way of a small opening in the inner leaf of the wall in the roof space.

After consideration of the details revealed by the inspection and an examination of the bricks, the following reply was furnished :—

*Reply.*—The failure of the cavity wall to provide protection against the weather is due to the combination of unfavourable circumstances. These are enumerated below. While it is not possible to assess the relative contribution of the various factors to the trouble which has occurred, it is possible that had any of them been absent or minimised, the penetration would also have been prevented or reduced. The factors which appear to have been operative are :—(1) Permeability of bricks; (2) design of wall ties; (3) workmanship; in conjunction with (4) unusually severe weather conditions and (5) exposed position of the building. These factors may now be considered in some detail.

WEATHER CONDITIONS.—The heavy rainfall of the last two months of 1934 undoubtedly revealed weaknesses that, under more normal conditions, would not have been manifested. A considerable number of inquiries with respect to penetration of damp was received by the Building Research Station during and shortly after this period. The proportion of such inquiries which relate to new buildings is rather higher than might be expected, suggesting that a certain degree of normal weathering may improve the resistance of brick walls and clay tile roofs to penetration of moisture. It is, however, not possible to speak dogmatically on this point.

EXPOSED POSITION OF THE BUILDING.—Comment on this factor is perhaps not necessary beyond remarking that the degree of exposure is rather severe, though not exceptional. Apparently trivial differences in exposure can, to judge from previous observations, make quite a marked difference to the weatherproofness of walls.

DESIGN OF WALL TIES.—The wall ties were not of a particularly good design, providing an unnecessarily great catchment area for mortar droppings. The presence of droppings on the ties in the upper part of the cavity was noticed, and it is a reasonable surmise that the conditions lower down were worse.

PERMEABILITY OF BRICKS.—A simplified permeability test which was carried out suggested that the permeability of the bricks was considerable. The workmanship, so far as the bedding of the bricks was concerned, was reasonably good, and it was not possible to ascribe any great proportion of the penetration of water to percolation through the joints of the bricks.

WORKMANSHIP.—This factor must be considered in conjunction with the remarks on wall ties above. One patch of dampness in the upper part of the cavity was definitely associated with the presence of an obstruction, bridging the cavity. The wall ties in the upper part were certainly not clean, though it was stated that a board was used to catch the mortar droppings.

REMEDIAL MEASURES. — The remedial measures which might be taken, in descending order of effectiveness, are :—(i.) Rebuilding outer leaf, using a less permeable brick and cleaning the ties or partly rebuilding and partly tile-hanging; (ii.) rendering; (iii.) treatment with colourless waterproofer. The last-mentioned method cannot provide permanent immunity from damp penetration. Such treatments required to be renewed at intervals. It is understood that colourless waterproofers have provided, at any rate, a temporary cure in cases of slight dampness, but they may well prove inadequate to deal with the present gross penetration.

A danger connected with the use of colourless waterproofers in the present case is that they may give a false sense of security. An application might be made at a time when the weather was becoming more favourable and an exaggerated idea of its effectiveness might be formed, only to be dispelled later when conditions of heavy precipitation recur.

No case of the failure of a properly constructed cavity wall to prevent penetration of moisture has come to the notice of the Building Research Station. Proper construction involves keeping the wall ties and the bottom of the cavity free from mortar droppings, otherwise the principle of the cavity wall—namely, a complete break in the capillary path for moisture travel—is violated.

### Failure of " Black Mortar " to Harden.

A firm of builders' merchants reported a complaint about the quality of black mortar which they had supplied to a customer. The mortar had been used during the past year, and had proved quite satisfactory until the frosts in the winter of 1934-5, when, in some of the houses, especially those built since October, 1934, it began to flake and was found on examination not to have hardened. Where the mortar had set the frost had no effect. A sample was submitted for inspection.

*Reply.*—The use of cinders in lime mortars often leads to the development of higher strength than would be obtained by using sand. This is due to the fact that certain constituents of the cinders often show pozzolanic properties (*i.e.*, have the property of combining with lime to form a cementing material). If, however, these pozzolanic properties are absent, the strength of the cinder mortar may fall below that of a sand mortar, since the cinder itself, owing to its mechanical properties, may not produce a mortar of such good quality as sand. It seems probable, therefore, that in the present case these pozzolanic properties were absent in the cinders, and this appears the more likely when it is considered that the moisture conditions necessary for the development of the pozzolanic properties have prevailed during the past months.

It must be realised, however, that the value of the cinders, even assuming that the pozzolanic properties exist, will be entirely lost if the material is unsound, *i.e.*, if it contains a proportion of unburnt coal which, on exposure, will expand slowly, causing disintegration of the mortar. The presence of unburnt coal is a well-known cause of the failure not only of lime mortars but of concrete products made with aggregates of this type. Consideration should also be given to the possibility of unsoundness in the lime, the effects of which would be very similar to those due to unburnt coal. A marked excess of fine material in the cinders is also undesirable. The failure of mortar to develop strength owing to one or several of these causes and lack of opportunity for the mortar to dry out somewhat renders it more liable to disintegration by frost action. The addition of a gauging Portland cement is often to be recommended in such cases although, when used, particular care should be taken to ensure soundness of both lime and cinders. By this means the mortar will develop a good early strength and will then be more resistant to frost. It must be emphasised, however, that a mortar carrying a gauging of Portland cement should be used within two hours of mixing and must not be retempered.

In a further letter the inquirer stated that so far as was known there was no unburnt coal in the ashes, and that the same source of supply had been used for a considerable time without any trouble arising. In reply to the statement that moisture conditions promoted pozzolanic action, the firm stated that in their experience, when bricks were wet and the weather bad the mortar would not set, as though excessive moisture retarded the set. In dry weather the mortar behaved quite well.

In reply, it was pointed out that the actual quantity of unburnt coal necessary to cause unsoundness in mortar need only be quite small and after grinding may not be capable of detection by visual means. A simple test has been devised for this purpose which will be found in Building Research Bulletin No. 5, " The Properties of Breeze and Clinker Aggregates and the Methods of Testing their Soundness," obtainable from H.M. Stationery Office, price 6d. Although intended originally for aggregates used for concrete, the " pat test " described in this Bulletin may equally well be applied in cases such as the present. The remark that under damp conditions the mortar does not set bears out the suggestion that, in the cinders used, the pozzolanic properties were absent. In that case the development of strength will depend entirely on drying out and on the process of carbonation, which is slow or absent in very wet conditions such as have prevailed since October, 1934. The mortar has, therefore, developed no strength and is susceptible to attack by frost.

### Deterioration of Interior Marble Panelling.

An architect asked for information as to the cause of pitting and discoloration of polished red marble and methods of preservation suitable for such work. The marble in question formed the interior panelling on the lower portion of the external walls of certain churches. The red marble was obtained from local quarries in slabs about 2 ft. wide, 6 ft. high and ¾ in. thick, and these were bedded in Portland cement. Some of the slabs had become discoloured and pitted, the surface crumbling away locally. The inquirer's description suggested that a certain amount of moisture was present in the walls.

*Reply.*—Pitting and discoloration of marble linings is of rather common occurrence. It is due to the absorption of moisture carrying soluble salts derived either from the cement used in fixing or from the backing materials. To prevent its occurrence it is customary to treat the back and the joint surfaces of the marble with shellac, but often dowel holes are subsequently cut in the marble and the shellac coating then becomes ineffective. It is, therefore, important that the fixers should be supplied with a solution of shellac and should be instructed to apply it liberally wherever they have had occasion to cut the shellac-treated surfaces.

As a further precaution, fixing with Portland cement or with a plaster of the Keene's

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cement type should be avoided. A suitable material is a calcium sulphate (hemihydrate) plaster retarded with an organic retarder such as glue. A suitable grade could be supplied by any of the well-known plaster manufacturers. To preserve polished marble, the best method is to repolish at regular intervals with beeswax, but it must be realised that this treatment will not prevent deterioration due to access of deleterious materials from the backing. With respect to the general question of the use of stone preservative liquids, reference may be made to Building Research Special Report No. 18, "The Weathering of Natural Building Stones," price 4s. 6d., obtainable through any bookseller or from H.M. Stationery Office

### Use of Mesh Reinforcement in Jointless Oxychloride Floors.

A firm of contractors specialising in the laying of magnesium oxychloride floors asked for an expression of the views of the Building Research Station on the desirability of using steel mesh reinforcement when the composition is laid on timber sub-floors.

*Reply.*—Our experience and observations suggest that when magnesite composition floors are laid over wooden sub-floors, they should be laid in two coats, and the bottom coat should always be reinforced by wire mesh or light expanded metal. The reinforcement should be secured to the sub-floor and should be completely embedded in the bottom coat of the composition. Similar reinforcement should be employed when the composition is laid over a filler joist floor, the reinforcement to pass over each joist and extend for a distance of at least one foot on either side. In the case of other types of sub-floor, the use of reinforcement is optional, but in no case is it objectionable.

Wire-mesh reinforcement has been included for many years in the standard practice of the best class of magnesite flooring work, and it is generally agreed that it makes for the better efficiency of the flooring. It is a matter of experience that the reinforcement is not liable to become seriously corroded, provided it is properly embedded in a well-compacted layer of the composition. We have heard of no case in which a composition floor has failed primarily through the use of reinforcement. The above remarks, however, should not be taken as minimising the danger of corrosion of other metalwork in the neighbourhood of magnesite floors, and every care should be taken to protect all iron and steelwork which passes through or immediately beneath the composition.

### Disintegration of Roof Tiles.

The authorities responsible for a college building asked for advice with respect to a failure of roof tiles. The building was erected ten years ago, and the roof slopes were covered with hand-made, sand-faced, clay roof tiles laid on battens and nailed in every third course. For some years the tiles had been slipping, and examination showed that the nibs had disintegrated. This deterioration is now proceeding to the extent of rendering the nail holes ineffective. A recent inspection of the roof made it clear that the tiles—some 20,000—would have to be replaced at an early date. The college authorities were anxious to prevent the same thing happening with any later supply of tiles. It was mentioned that the building was heated with hot-water radiators supplied from distribution pipes in the roof space. Sample tiles, some fairly sound, some representative of the injured tiles, and a large quantity of disintegrated tile powder were submitted for examination.

*Reply.*—Several failures of this type have previously been brought to the notice of the Building Research Station. The powdered material submitted was found to consist of a mixture of tile dust and soluble salts—principally magnesium sulphate—as in previous cases examined. This salt is well known as a cause of the failure of clay products, and its presence is always a source of danger. A test for efflorescence was made on one of the tiles which as yet showed no serious injury. The test was made by partly immersing in water, and it showed efflorescence after five hours. The other tiles showed various stages of attack by florescence. It, therefore, appears that the failure of the tiles generally is due to efflorescence of salts contained in the tiles, the degree of severity of attack varying with the proportion of salts present in the individual units, and possibly also the texture of the body. The injury is produced in the following way: Owing to evaporation at the head of the tiles, the moisture absorbed on the exposed parts is continually being drawn to the nibs by capillary action, and the salts dissolved by the water in passing through the tiles are deposited there when the water evaporates, causing the disintegration observed.

The presence of the heating pipes in the roof space would appear to have assisted in causing the trouble. The relatively high temperature persisting in the roof space on this account would, of course, markedly increase the evaporation of moisture at the head of the tile, thereby creating a strong capillary action tending to draw all moisture to these parts, so that conditions are particularly favourable to a failure of this type. The tiles appeared to vary in quality, and it was noticed that the body of the affected tiles was much paler than that of the sound samples.

In renewing the roof it is suggested that the tiles should be purchased under a guarantee that they comply with the British Standard Specification No. 402—1930, for Clay Plain Roofing Tiles. A copy of this Specification may be obtained from the British Standards Institution, 28, Victoria-street, London, S.W.1, or from any bookseller (price 2s. 2d.). As an assurance of freedom from trouble with the tiles which are to be used in re-roofing, a determination of the proportion of efflorescent salts present could be made. An appropriate fee would be charged for this work.

## BUILDERS AT GOLF.

The spring meeting of the Building and Allied Trades Golfing Association will take place at Stoke Poges Club, Slough, on Thursday, May 9. Singles (medal play) and Four-ball foursomes against bogey on handicap will be played. Prizes will be given for each event, including a scratch prize for the singles. The singles will be divided into two sections: (1) up to 12 handicap, and (2) 13 to 18 (limit). Competitors must play from their lowest handicap. Concurrently with the "singles," those members returning the best 20 net scores will be eligible to compete for the remaining half of the "Dyke" cup competition, at the autumn meeting. Limit of handicap 18. The charges for the day's play, which will include green fee, lunch, caddy for the day, allowance for prizes, tips to staff (excluding caddies) and annual subscription of 2s. 6d., due January 1, 1935, will be £1 2s. 6d. Members will pay for their own teas, and tip caddies. Competitors may commence their rounds at 9.15 a.m. Members without partners can fix up when they arrive. The committee reserve the right to ask members to play their singles or foursomes in the morning. At the conclusion of play the usual meeting will take place. Those wishing to take part should reply with cheque before May 1 to Mr. Hubert H. Hill, Hon Secretary, Messrs. W. G. Hill and Son, Monument Station-buildings, King William-street, London, E.C.4. In order to avoid congestion, a time-sheet will be instituted, and members will be advised of their starting times. Those members who do not send in their applications before the closing date must take their chance of a starting time.

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### Institute of Transport Presidency.

Sir Cyril Hurcombe, the Secretary of the Ministry of Transport, has accepted an invitation to become President of the Institute of Transport for the year beginning on October 1, 1935.

## "THE THRIFTY THREE MILLIONS."

This book, written by the managing director of one of the most important London building societies, is a knowledgeable and informative survey of the building society movement in general and a history of the Abbey Road Society—which is now celebrating its diamond jubilee. To those who imagine that the building society movement is a new one, it may be surprising to know that a society was formed in Birmingham as early as 1781. This preliminary effort was followed a year later by the formation of the Saracen's Head Building Society. The progress of the movement for the next ninety years is somewhat veiled and there are no specific references to building societies, although there seems little doubt that the foundations of the movement were laid during that period when the industrial revolution was gaining impetus, and this although by 1870 "the societies' aggregate resources totalled only £17 millions." This was divided between approximately 2,000 societies. The author thinks that this is due, in the words of Mr. G. D. H. Cole, to the fact that, "up to nearly the middle of the century, though wealth was accumulating fast and average rates of profit were high, industry suffered from a shortage of available capital . . . until means were devised, in the modern joint stock company, for making the savings of 'small men' available for the use of large scale industry. By the middle of the century . . . the supply of industrial capital became more abundant. . . . There was no longer the same need for the capitalist to 'abstain,' or for wages to be kept down to the lowest point. . . . The workman could be urged to save and invest, where before he had only been urged to go without." This condition of things, added to the co-operative influences then at work in the form of friendly societies and trade unionism, was clearly the right soil for the development of the building society movement under the regulations for its conduct which had been laid down by the Act of 1836. In 1872, the movement was the subject of inquiry by a Royal Commission, which resulted in the passing of the Building Societies Act, 1874. Rates of interest were commonly as high as seven or eight per cent., and on occasion even larger. The Commission found it necessary severely to censure the conducting of many of the "terminating" societies, *i.e.*, societies which, by their rules, were to terminate at a fixed date, or when a result specified in the rules was attained. "The terminating form of society," wrote one expert, "works smoothly in its earlier years, but as the society approaches termination, difficulties arise in obtaining interest for its money on account of the shortness of the term for which an advance can be made." This difficulty was often obviated by establishing a series of societies in succession to one another.

The Act of 1874 gave rise to the formation of a large number of new societies, among them the Abbey Road, founded in the year of the Act. At the end of 1875 its resources amounted to £2,103. At the end of last year these had grown to £45,000,000. The story of how this was achieved is a fascinating record. The Society, founded with a keen sense of public duty, preserves that spirit up to the present day. The story is well and brightly told, and the volume is to be recommended to all who are interested in one of the most useful and well-conducted movements of modern times. There is a useful and informative series of appendices on housing, national capital (£1,750 millions in 1800, £18,043 millions in 1928), national income (£230 millions in 1800, £3,384 millions in 1932), wage rates, etc.

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* "The Thrifty Three Millions: A Study of the Building Society Movement and the Story of the Abbey Road Society." By Sir Harold Bellman. London: Abbey Road Building Society, Baker-street, N.W.1. 2s. 6d. and 5s., cloth boards.

# NATIONAL FEDERATION OF HOUSE BUILDERS

## ANNUAL CONFERENCE.

The annual conference of the National Federation of House Builders was held in London on Monday, April 8. Mr. Frank Williams, in the course of his presidential address, said that the record number of 254,934 houses were built by private enterprise in the year ended September 30 last. The figure was 53 per cent. in excess of the previous year, and 95 per cent. greater than in 1931 and 1932. No doubt the figures to March 30, 1935, would show a further increase.

The responsibility for not building large numbers of houses to rent under the Housing Act, 1933, the speaker continued, was that of the local authorities, who had not shown any willingness to operate the Act, although the builders and the building societies had been ready to go ahead. The local authorities had put up all sorts of schemes to the Ministry to secure the building of houses in their own hands. There was no guarantee that the local authorities would charge economic rents.

The Government should clear the slums by regulation and leave the rehousing to private enterprise, which could and would house the people at no cost to the State. "Approximately 50 per cent. of the slum tenants are not rent cases," he added, "and could afford to purchase their own houses, or pay an economic rent. The rest could be housed in present Council houses, many of which are occupied by tenants who can afford to house themselves without State aid. The ownership of large housing estates by local councils is not in the interests of local administration or to the good of public funds."

The waiting lists of local authorities for houses could, in his opinion, be reduced by 50 per cent., and in some cases wiped out altogether. These lists were often a farce, and only served to keep alive the cry of a housing shortage. The Government must be shown that private enterprise could "deliver the goods," and at no cost to the State, and the house-builder should build such a good and attractive house, at such a low price, that every citizen would be compelled in his own interest to buy a house.

One of the items on the agenda was "The threatened increase in wages in the building industry." The President explained that a Joint Committee had made a recommendation for an advance, on certain conditions. The subject, therefore, was not further pursued.

### The Annual Dinner.

The eighteenth annual dinner of the Federation was held in the evening at the Hotel Victoria, W.C., when the President, Mr. Frank Williams, occupied the chair.

Proposing the toast of "H.M. Government," the President congratulated the Minister of Health on having had the courage to withdraw the building subsidy and trusting to private enterprise, and expressed the opinion that their industry had justified that confidence.

Mr. Geoffrey Shakespeare, Parliamentary Secretary to the Ministry, deputising for the Minister of Health, said since the Government had stopped the general building subsidy private enterprise in the building industry had done far more than was even expected of it. In the year ended September, 1932, they built 131,000 houses. In the year ended September, 1934, they built 255,000. With regard to the appeal to the municipalities to assist the Government in tackling the slum problem, it was possible to say for the first time they were within sight of overcoming that evil. The whole nation had taken the matter to heart and it was bound to succeed. At the rate they were now proceeding they were demolishing and rehousing a town the size of Brighton in a year. They were solving a problem that had baffled Governments for years. They hoped to be able to expedite the matter further and to rehouse to the size of Brighton in six months.

The "Prosperity of the Industry" was proposed by Sir Ernest Benn, who said it seemed to him that the industry was simply bulging with prosperity and was the envy of every other.

Sir Harold Bellman, Chairman of the National Association of Building Societies, responding, said he could see no signs of any diminution of their prosperity in the future. The question of mortgage interest through building societies was receiving very careful consideration. The present rate of 5 per cent. could not in any way be called profiteering, but in the immediate future there was a distinct probability that the rate would be reduced by at least ½ per cent.

# LONDON BUILDING ACT AND EXPENSES OF DEMOLITION

We may perhaps usefully supplement the report of the case London County Council *v.* Harling-street Owners, which appeared in our issue April 5, with a few observations, as the case is also reported in *Weekly Notes*, April 6. Certain owners of property in Harling-street had been served with notices under Section 132 of the London Building Act, 1930, that the structures were in a dangerous state and calling upon them to take them down. As the notices were not complied with, orders were obtained under Section 133, naming a time within which the notices must be complied with, and on failure of the owners to comply with this order the County Council under that Section "caused" the work to be done—that is to say, they employed a well-known firm of building contractors to do the work. When the work was completed, the County Council took steps under Section 141 to recover the expenses they had incurred in the work of demolition, and when the matter came before the Petty Sessional Court the magistrate, in respect of the expenses incurred on four of the houses, made certain deductions on the ground that some of the material could have been sold on the site by the contractors, the purchasers paying the cost of removal, and the saving attributed to this course had it been adopted was placed by the magistrate at £75. The contractors, owing to want of space on the site and other reasons, had employed another firm of contractors to remove the material at a cost of £119, and this the magistrate also deducted. We show the effect of the deductions as follows: House No. 7, expenses claimed £136 16s. 4d.; amount allowed, £108 18s. 4d.; House No. 15, claimed £91 9s. 8d; allowed, £76 9s. 8d.; House No. 17, claimed £145 9s. 4d.; allowed, £70 9s. 4d.; House No. 19, claimed £177 15s. 8d.; allowed, £102 15s. 8d. The whole of the above items put together make total amounts claimed £551 11s.: amounts allowed, £358 13s.

The two sums of £75 and £119 disallowed were apportioned amongst the four houses. The grounds upon which the magistrate had acted in making these deductions were that, although the contracts were reasonable and the London County Council had acted reasonably in entrusting the work to the contractors, as the contractors had no experience in the marketing of the old materials they, the contractors, should have obtained expert advice from someone versed in that particular branch of the building trade and employed a demolition contractor.

The matter came before the Divisional Court on the question whether the magistrate, under Section 141, subsection (1), of the London Building Act, had any power to reduce the amounts claimed, and a case decided under Section 73 of the Metropolitan Building Act, 1855, Debenham *v.* Metropolitan Board of Works (1880, 6, Q.B.D. 112) was relied upon, but the Court distinguished that case on the ground that Section 141, subsection (1), empowered the Petty Sessional Court to make an order "fixing" the amount of the expenses—an expression not found in the Metropolitan Building Act—and that this gave the magistrate a discretion to deal with the matter, and the magistrate had evidence before him which justified the course he had taken. We may add that the same expression was used in Section 116 of the Act of 1894, and the new Act therefore made no change in the law.

# MANCHESTER BUILDING TRADES EXHIBITION

Following are the awards in the plumbing competitions promoted by the management in connection with the recent Manchester Building Trades Exhibition:—

JOURNEYMEN'S TEST.

First Prize: Donald Hilton, 32, Victoria-avenue, Whitefield, near Manchester.

Second Prize: Harry Gorton, 46, Grafton-street, Failsworth, near Manchester.

Third Prize: John Hamer, 130, Briercliffe-road, Burnley, Lancs.

APPRENTICES' TEST.

First Prize: Harold Kitson, 20, Elton-street, Stretford, near Manchester.

Second Prize: Wilfred Hodgson, 348, Barlow Moor-road, Chorlton-cum-Hardy, Manchester.

Third Prize: Norman N. Crossley, 56, New Barn-lane, Rochdale.

Highly commended: Leonard Arthur Williams, 114, Argyle-street, St. Helens.

The assessors' report is as follows:—

JOURNEYMEN'S SECTION.—"In this section the entries were not so numerous as in the Apprentices' Section, but it was gratifying to find over twenty journeymen plumbers keen enough to display their skill at the trade, and it is to their credit that a difficult test of sheet-lead work produced some really excellent results. The winning pieces would have found a high place amongst any of our National Plumbing Examinations. The pipe-bending test, although much easier, produced some pleasing work.

APPRENTICES' SECTION.—"A large entry of over 50 showed that the competition spirit in plumbing work is prevalent in the district, and considering that it was open to all apprentices between the ages of 14 and 21, the examples of work executed were, on the whole, well above average. The winning pieces of sheet-lead work in this section were excellent, and whilst the pipe-bending did not require the same degree of skill, it was evident it had been carried out with much thought. We desire to express our appreciation to Provincial Exhibitions, Ltd., for having organised these competitions so thoroughly, and we sincerely hope they will continue to be a feature of future building trade exhibitions. —W. F. Thacker, W. L. Fozard, D. H. England, Examiners."

# CARPENTRY AND JOINERY

On the title-page of this work* it is claimed that it is crisply composed from the standard work of Thomas Tredgold, C.E., with additions, alterations and corrections from the works of the most recent authorities; and it is further noted that this is the thirteenth impression. Before structural steel came into general use for building purposes, architects and engineers gave much study to timber, and carried out an enormous amount of research work, both here and abroad. The names of Robinson, Young, Barlow, Tredgold, Hodgkinson, Bevan, Rennie, and a host of others were familiar to the student. Tredgold, in particular, stood out, not only on account of the great value of his work, but because of the clarity with which he expressed himself. As the result of experiment and experience he prepared rules for calculating the sizes of timbers in constructional work that were of very easy application. "Tredgold's Rules" were widely quoted, as also were "Tredgold's Tables." They solved the problem for the constructor with reasonable safety and economy, and spared him the time and trouble of making difficult calculations, with consequent liability to error. The student and the practical builder will find much to interest and help them in this condensed work.

* "Carpentry and Joinery." By T. Tredgold and E. W. Tarn. London: The Technical Press, Ltd. Price 5s.

# NEW BUILDINGS IN LONDON

ALPERTON.—HOUSES.—Messrs. A. Waddington and Son have submitted plans for 70 houses in Carlyon-road, backing on to the Canal, to the Wembley U.D.C. for approval.

ALPERTON. — SCHOOL. — The Middlesex C.C. have applied for the consent of the M.H. to borrow £26,193 in connection with the erection of an elementary school in Vincent-road.

BUNHILL-ROW. — BUILDINGS. — The contract for new lecture rooms, gun park, etc., at the headquarters of the Honourable Artillery Company (T.F.) has been placed with Messrs. R. Mansell, Ltd., 17, Grant-road, Croydon. The architect is Mr. H. Gordon Stanham, L.R.I.B.A., 26-27, Bush-lane, E.C.4. The cost is about £10,000.

CHARING CROSS. — MODERNISATION. — Details of the proposed modernisation of Charing Cross Hospital were given by the Chairman, Mr. George Verity, when presiding at the annual general court of governors. The modernising comprised the provision of pay wards, reorganising and enlarging the kitchens, operating theatres, etc., reconstituting the large basement entirely to the use of their physicians and surgeons. Mr. A. H. Goslett, F.R.I.B.A., 28, Theobald's-road, W.C.1, is the architect to the hospital.

CHEAM.—ESTATE.—Messrs. Mackenzie and Sons, Ltd., 1, Crathie-road, Lee, S.E., builders, have acquired the site of Cheam school for development as a housing site. Plans are now being prepared.

CLAPTON.—DWELLINGS.—In view of the necessity for the provision of rehousing accommodation in connection with the Hackney Council's slum clearance programme, contracts have been entered into by the B.C. for the purchase of the freehold properties 20 and 22, Clapton-common, for the purposes of a housing scheme. The Council's architects have prepared a scheme which provides for the erection of 75 dwellings on the site in four blocks, with perambulator and cycle sheds. The building work is estimated to cost £34,000 and tenders are to be invited.

CORNHILL. — ADDITIONS. — Sir Aston Webb and Son, 19, Queen Anne's-gate, Westminster, S.W.1, are the architects for addition to the sixth-floor level at Nos. 23-27, next to Change-alley East, for the Commercial Union Assurance Co., Ltd.

D'ARBLAY-STREET.—SHOPS.—Are to be built on the site of 30-32, the contractors being Messrs. Ernest Hocking, Ltd., 130, Wardour-street, W.1. The architects are Messrs. Moore and Hunter, 39, Great Marlborough-street, W.1, in conjunction with Messrs. Lee and Dickens, 15, Great James-street, W.C.1.

EALING.—HOUSES.—The Cow-lane housing site is to be further developed by the T.C. by the erection of another 40 houses.

EALING.—HOUSES.—The New Ideal Homesteads, Ltd., Erith, are to erect 80 houses and bungalows in Farndale-crescent, and 27 houses and bungalows in Barnham-road.

EALING.—REBUILDING.—Messrs. Watney, Combe, Reid and Co., Ltd., are to rebuild the "Queen Victoria" public-house, The Green, to plans prepared by Messrs. F. J. Fisher and Son, 35, John-street, W.C.1.

EALING. — SHOPS. — The Morris Estates, Ltd., Dorland House, Regent-street, W.1, are to erect 17 shops with flats over in Ruislip-road.

EDMONTON.—SCHOOL.—A new school, including a caretaker's cottage, is to be erected in Bull-lane for the U.D.C., from plans prepared by Messrs. Talbot Brown and Fisher, F.S.A., F. and L.R.I.B.A., Burystead-place, Wellingborough. Applications to tender are to be made by April 27.

ELTHAM.—CHURCH.—The Roman Catholic authorities have acquired a site on the Middle Park estate for a new church, schools and presbytery. Arrangements are in the hands of the Diocesan Secretary, the Rev. H. Rochford, Bishop's House, St. George's-road, S.E.1.

ELTHAM. — ESTATE. — Messrs. John D. Wood and Co., 23, Berkeley-square, W.1, have purchased, on behalf of clients, the Well Hall estate and Castlewood estate, Eltham, S.E., together about 50 acres of building land, which it is proposed to develop with model small houses and shops. The same company have also recently been concerned in a transfer of about 70 acres of building land in the Finchley area. The total amount of the consideration involved in these two transactions is £115,000.

ELTHAM.—SCHOOL.—At an estimated cost of £45,948, the L.C.C. Education Committee propose to erect a second school on the Middle Park estate, off Eltham-road. Plans have been prepared for a three-story building to accommodate 396 junior boys, 396 junior girls and 356 infants.

ERITH.—EXTENSIONS.—Are to be made to the factory of the Atlas Preservative Paint Co., Ltd., Fraser-road. The builders are Messrs. William F. Blay, Ltd., Spital-street, Dartford. The architects are Messrs. Hal Williams and Co., 43, Bedford-square, W.C.1.

FINCHLEY. — EXTENSIONS. — And alterations are to be made to the premises in High-road, N.12, of the Advance Laundry, Ltd., 118, New Oxford-street, W.1. The architect is Mr. R. A. Hinds, F.R.I.B.A., 8, Duke-street, W.C.2.

FRIERN BARNET.—FLATS.—The Council has approved proposals for the erection of a block of 24 flats, three stories in height, on the site of Henley House, Friern Park, by Messrs. P. H. Edwards, Ltd., estate agents, 237, Golders Green-road, N.W.11.

FULHAM.—ADDITIONS.—Comprising new workshops are to be made to the premises of the Gas Light and Coke Co., to plans prepared under the direction of the chief engineer, Mr. T. Hardie, M.Inst.C.E. The contract has been placed with Messrs. A. Roberts and Co., Ltd., 74, Earls Court-road, W.8.

H·M
THE KING'S HOUSE

EMPIRE
MARBLES

BATHROOM
LAVATORY
CHIMNEY-PIECE
MAIN-ENTRANCE

JOHN STUBBS & SONS
WORKS
LONDON & LIVERPOOL

FULHAM.—CLINIC.—The B.C. recommend that in connection with the proposed acquisition of 5 and 7, Parsons-green, they approve the policy of replacing the existing buildings by a new maternity home and clinic, at £33,000. The plans are by the Borough Surveyor.

GRAY'S INN.—BUILDING.—The site of Nos. 1-2, Gray's Inn-place, W.C.1, is being cleared preparatory to the erection of a large block of chambers. The contractors are Messrs. Holland & Hannen and Cubitts, Ltd., 1, Queen Anne's-gate, S.W.1. The architect is Mr. C. W. Reeves, L.R.I.B.A., 3, Gray's Inn-square, W.C.1.

GREAT PORTLAND-STREET. — SHOWROOMS AND OFFICES.—A block of showrooms and offices at 97-99, Great Portland-street, 3, Gildea-street, and 6, Hallam-street, is to be erected for Mr. C. E. Peczenik, 17, New Cavendish-street, W.1. We stated in our issue for March 29 that plans were being prepared by Mr. T. H. F. Burditt. This was in error, as plans are being prepared by Mr. Peczenik's own architectural staff. We apologise to Mr. Burditt for any inconvenience he may have been caused.

GREAT WEST-ROAD.—FACTORY.—Messrs. Gillette Industries, Ltd., 197, City-road, Clerkenwell, E.C., have acquired a site for a large factory, offices, warehouses, canteen, etc. No contracts have been placed yet. The architect is Sir Banister Fletcher, F.R.I.B.A., 1, King's Bench-walk, Temple, E.C.4.

GREENWICH. — FLATS. — The B.C. has recommended 18 three-bedroomed non-parlour type flats, and 18 two-bedroomed non-parlour type flats on the Bramhope section of the Victoria-road housing site for the purpose of providing accommodation for persons to be displaced from clearance areas. The erection of the 36 flats will be carried out by the direct employment of labour at an estimated cost of £21,420.

GROSVENOR-SQUARE.—FLATS.—The site of Nos. 35-37, Grosvenor-square is being cleared for the erection of the proposed block of flats for Messrs. 35, Grosvenor-square, Ltd., 93, Park-lane, W.1. The contract has been placed with Messrs. Humphreys, Ltd., Knightsbridge, S.W.1. The cost will be about £250,000. The plans have been prepared by Mr. Michael Rosenauer, 1, Upper George-street, W.1. The consulting engineer is Mr. S. Bylander, 26, Old Burlington-street, W.1.

HAMMERSMITH. — PREMISES.—The B.C. has approved plans submitted by Mr. C. E. Ardley, on behalf of Messrs. J. Lyons and Co., Ltd., for a new frontage line for new premises on the Elm House site, Hammersmith-road and Brook Green.

HANWELL.—SCHOOL.—The Borough Surveyor of the Ealing T.C. has been instructed to prepare plans for a three-department school to be erected on the Cuckoo Hill estate.

HARRINGAY.—FLATS.—About 78 flats and 15 garages are to be erected in Green-lanes by Messrs. C. R. Symons and A. Harris, 75, High-road, N.22. The contract has been placed with Messrs. Percy Bilton, Ltd., Bilton House, Park-street, W.1. The architect is Mr. J. B. F. Cowper, F.R.I.B.A., 53, Gower-street, W.C.1. The quantity surveyors are Messrs. Veale and Sanders, 257-259, Oxford-street, W.1.

HENDON. — EXTENSIONS. — Messrs. Bamfords Spring Interiors, Ltd., Carlisle-road, Hendon, N.W.9, are having a third extension added to their new factory. The plans are by Messrs. Chamberlain & Willows, 23, Moorgate, E.C.2.

HIGHGATE.—FLATS.—The contract for a large block of flats on the site of South Grove House, South-grove, N., has been placed with Messrs. Gee, Walker and Slater, Ltd., 32, St. James's-street, S.W.1. The architect is Mr. Guy L. Morgan, A.R.I.B.A., 9, Gower-street, W.C.1.

HIGHGATE.—LIBRARY.—The St. Pancras B.C. has approved the erection of a children's library in accordance with the plan submitted by the Borough Engineer and Surveyor on the land at the rear of the Highgate

Library, at £1.450. Tenders are to be invited.

KILBURN.—Baths.—The Willesden T.C. are inviting tenders for the erection of public baths and wash-houses in Granville-road, N.W.6. The Borough Engineer, Mr. F. Wilkinson, has prepared the plans. Application to tender is to be made by April 26.

KINGSBURY.—Factories.—The Wembley U.D.C. has approved plans for two adjacent factories in Carlisle-road for Messrs. J. Laing and Son, Ltd., Mill Hill, N.W.7.

KINGSBURY.—Flats.—Messrs. Anns and Haigh, architects, 12b, George-street, Hanover-square, W.1, have submitted plans for the erection of 20 flats in five blocks of four on a site at the corner of Slough-lane and Lewgars-avenue, Kingsbury, to the Wembley U.D.C. No building contracts placed.

KINGSBURY.—Rebuilding.—The "Green Man" public-house, Slough-lane and Kenton-lane, is to be rebuilt for Messrs. Truman, Hanbury and Buxton, Ltd. The building contract has not yet been placed.

KINGSBURY.—Shops.—Are being erected on the Oak Lodge estate, Edgware-road, by Mr. Henry Brown, Whippendell-road, Watford.

KINGSBURY.—Shops.—No building contract yet placed for the 12 shops with 12 flats over in Kingsbury-road, adjoining the existing shops at the corner of Roe Green. The plans are by Messrs. Hendry and Schooling, architects, 6, Bedford-row, W.C.1.

KINGSTON-ON-THAMES. — Office Premises.—Messrs. Gale, Heath and Sneath, 15, New Bridge-street, E.C.4, have prepared plans for the erection of office premises at 86-88, Eden-street. The builders are Messrs. F. G. Minter, Ltd., Ferry Works, Putney, S.W.15. The work has commenced.

MARYLEBONE.—Station. — The Central Electricity Board, 1, Charing Cross, S.W.1, are to build a switch house in Lodge-place, W.1. The contract has been placed with the Anglo-Scottish Construction Co., Ltd., 59, Palace-street, S.W.1. The plans have been prepared by Messrs. Merz and McLellan, consulting engineers, 32, Victoria-street, S.W.1.

MERTON.—Flats.—The U.D.C. has received plans submitted by Messrs. Henry Dawson and Sons, architects, 20, Ludgate-hill, E.C.4, for four-story buildings comprising 128 flats in London-road.

MORTLAKE. — Extensions. — Plans have been approved for extension of bottling stores and cold store at the Brewery, High-street, for Messrs. Watney, Combe, Reid and Co., Ltd., Stag Brewery, Pimlico, S.W.

PARK-LANE.—Flats.—Messrs. Val Myer & Watson-Hart, Abbey House, Victoria-street, S.W.1, have submitted preliminary drawings in connection with the proposed development of a site (Fountain House) bounded by Park-lane, Mount-street, Park-street, and Aldford-street, to the Westminster City Council for approval. The applicants propose to build a block of about 52 flats.

PERIVALE.—Factory.—Mr. A. W. Young, 1, Emery Hill-street, Westminster, S.W.1, has prepared plans for a factory in Brumwill-road for Messrs. Buss and Elston, Ltd.

ROYAL ALBERT DOCKS.—Extension.—The Port of London Authority have decided to place a contract with Sir Robert McAlpine and Son, Ltd., 50, Pall Mall, S.W.1, for the widening and reconstruction of the North Quay of their docks. The plans have been prepared by the authority's chief engineer at Trinity-square, E.C.3.

ST. ALBANS.—Post Office.—H.M.O.W. have placed a contract with Mr. J. Dennis, 58, Victoria-street, St. Albans, for the erection of a branch post office.

ST. MARY CRAY.—Building.—The S.R. Co., Waterloo Station, S.E.1, have placed a contract with Messrs. William F. Blay, Ltd., Railway House, Dowgate-hill, E.C.4, for new station buildings, costing about £5,000. Plans have been prepared by the company's architect, Mr. J. R. Scott, L.R.I.B.A.

SHENLEY.—Additions.—Tenders are invited by the Middlesex C.C. for alterations and additions at Shenleybury Farm, Shenley Mental Hospital. The plans are by Mr. W. T. Curtis, F.R.I.B.A., County Architect, 10, Great George-street, S.W.1.

SOUTHFIELD. — Shops. — Messrs. Adlards Farms, Ltd., estate owners, 71, Upper Richmond-road, S.W.15, are to erect shops with flats over at the junction of Keswick-road and Upper Richmond-road. The plans have been passed by the Wandsworth B.C.

SOUTH-STREET.—Building.—A new company, called the Westminster Reversion Co., Ltd., 32, Bedford-row, W.C.1, has been formed to acquire 45 and 47, South-street, Westminster, and to lay out land for building purposes, etc.

STREATHAM HILL.—The C. C. & G. R., Ltd., 41, Knightsbridge, S.W.1, a new company, are to acquire a site at Streatham Hill, S.W., and to develop the site and deal with the properties to be erected. The architect is Mr. J. J. Taylor, 11, Gayfere-street, S.W.1. The quantity surveyors are Messrs. Gleeds, 106, Regent-street, W.1. No contracts placed.

TOOTING. — Conversion. — The Wandsworth B.C. are inviting tenders for converting to slipper baths the men's first- and second-class shower baths at the Tooting Baths, High-street, S.W.17. The Borough Engineer, 215, Balham High-road, S.W.17, has prepared the plans, and the work is estimated to cost £2,691. May 8 is the sending-in day for tenders.

WANSTEAD.—Factory.—The London Refiners, Ltd., Hookers-road, E.17, propose to build a new factory in Southend-road. No contracts have been placed yet. The architects are Messrs. Chamberlain and Willows, Moorgate, E.C.2.

WARDOUR-STREET. — Rebuilding. — Messrs. Barclays Bank, Ltd., 53, Lombard-street, E.C.3, the owners of 183 and 185, Wardour-street, propose to rebuild their premises.

WEMBLEY.—Houses. — Messrs. Callow and Wright, Ltd., builders, 207, Brondesbury Park, N.W.2, have had plans passed by the local U.D.C. for the erection of 65 houses in Oakington Manor-drive, 38 in Tudor Court South, 38, Tudor Court North, and 16 in Grand-avenue. The plans were prepared by the builders themselves.

WEMBLEY.—Post Office.—Mr. J. A. Dartnall, F.R.I.B.A., 11, Dowgate-hill, E.C.4, is the architect for a post office in Edgware-road. The plans have been submitted to the local council.


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EST. 1858


## NEW PUBLIC WORKS

BLAENAU FESTINIOG. — The Festiniog and District War Memorial Hospital is to be extended, to plans by Mr. R. C. Jones, L.R.I.B.A., Cae'rblaidd Offices, Blaenau Festiniog, from whom quantities are obtainable on deposit of £2 2s. Tenders by April 25.

BOOTLE. — C.B. propose erection of 51 houses on two sites, to plans by the Borough Engineer's department, Town Hall, from whom specifications are obtainable on deposit of £2 2s. Tenders by April 24.

BRISTOL.—Bristol Corporation is to seek to acquire powers to purchase compulsorily properties required for new roads and open spaces in connection with the new municipal buildings proposed. When the purchase order is secured, Mr. E. Vincent Harris, 29, St. James's-square, S.W.1, will be instructed to proceed with the preparation of the necessary plans.

CAMBRIDGE.—The Minister of Transport has approved plans for the building of a new bridge and the reconstruction of an existing bridge in Long-road, Cambridge. The new bridge will remove the level crossing over the London and North Eastern Railway, and the existing bridge, which carries the road over the London, Midland and Scottish Railway, will be widened and strengthened. Both proposals are embodied in one comprehensive scheme submitted by the Cambridge Town Council. They are estimated to cost £36,400.

OXFORD.—Oxford Corporation propose to erect a swimming bath at East Oxford, at £10,000, and a gala bath at Hinksey, at a cost of £40,000. Plans by Engineer.

PORTSMOUTH. — Alterations and additions are proposed to Cottage Grove School by Portsmouth E.C. Builders desiring to tender must apply to Mr. Adrien J. Sharp, L.R.I.B.A., 1, Guildhall, by April 24. Specifications from the architect (with £2 2s. deposit). Tenders by May 16.

ROTHERHAM.—Work is shortly to begin on the construction of Rotherham's new swimming baths, proposed on a site in Westgate. Plans are by Mr. Vincent Turner, M.Inst.C.E., Borough Engineer.

SEVENOAKS.—R.D.C. invite tenders for (a) 156 houses in 9 parishes; (b) construction of roads and bridges; (c) construction of sewers; (d) fencing; and (e) installation of electricity in the 9 parishes. Specifications from Mr. C. R. Lyman, F.S.I., Building Surveyor, Inglewood, Oak Hill-road, Sevenoaks, on deposit of £2 2s. (for contract (a) only). Tenders by May 1.

SHROPSHIRE.—A comprehensive scheme for the provision of 45 practical subjects centres in various parts of the county during the next three years has been adopted by the Shropshire Education Committee. Seven of these will be built over the period at a total cost of £8,450. Plans will be by the County Architect.

SOUTHAMPTON.—The Southern Railway have placed a contract with Messrs. A. Jackaman & Sons, Ltd., Mackenzie-street, Slough, Bucks, for the construction of new engine-sheds, 750 ft. long and 98 ft. wide, accommodating six lines of track, with an annexe 108 ft. long by 15 ft. wide. The plans have been prepared by the company's chief engineer at Waterloo Station, S.E.1.

SWANSEA.—Final drawings and quantities are well in hand for Swansea University College's new library, for which Mr. Verner O. Rees, F.R.I.B.A., 16, Harpur-street, London, W.C., is architect. It is hoped that the College Council will be able to accept a tender in July. The scheme is estimated to cost about £40,000.

### Steel Scaffolding.

It is interesting to note that a pigeon, secure in the knowledge of the stability of steel scaffolding, has built its nest in one of the stands erected for the Jubilee procession on May 6 by the Steel Scaffolding Co., Ltd., of 80, Regent-street, W.1. This firm has supplied over 1½ million feet of tubing and 250,000 couplers for these grandstands.

# RATES OF WAGES IN THE BUILDING TRADE

**AS AND FROM 1st FEBRUARY, 1935.**

**[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]**

| | Crafts-men. | Lab-ourers. |
|---|---|---|
| Aberdare | 1/5 | 1/0¾ |
| Abergavenny | 1/5 | 1/0¾ |
| Abingdon | 1/4 | 1/0 |
| Accrington | 1/5½ | 1/1¼ |
| Aldeburgh | 1/1½ | 10¼ |
| Aldershot | 1/2½ | 11 |
| Alfreton | 1/5½ | 1/1¼ |
| Alnwick | 1/5 | 1/0¾ |
| Altrincham | 1/5½ | 1/1¼ |
| Amble | 1/5 | 1/0¾ |
| Amersham | 1/3½ | 11¾ |
| Ammanford | 1/5½ | 1/1¼ |
| Andover | 1/2½ | 11 |
| Arundel | 1/3 | 11¼ |
| Ascot | 1/3½ | 11¾ |
| Ashby-de-la-Zouch | 1/4 | 1/- |
| Ashford (Kent) | 1/2½ | 11 |
| Ashford (Middx.) | 1/4½ | 1/0½ |
| Ashington | 1/5 | 1/0¾ |
| Ashtead | 1/4 | 1/- |
| Ashton-under-Lyne | 1/5½ | 1/1¼ |
| Aylesbury | 1/3 | 11¼ |
| Aylsham | 1/2½ | 11 |
| Bagshot | 1/2½ | 11 |
| Banbury | 1/3 | 11¼ |
| Barnsley | 1/5½ | 1/1¼ |
| Barnstaple | 1/3½ | 11¾ |
| Barrow-in-Furness | 1/5½ | 1/1¼ |
| Barry | 1/5½ | 1/1¼ |
| Basingstoke | 1/3 | 11¼ |
| Bath | 1/4½ | 1/0½ |
| Batley | 1/5½ | 1/1¼ |
| Beaconsfield | 1/3½ | 11¾ |
| Beccles | 1/2 | 10½ |
| Bedford | 1/4½ | 1/0½ |
| Berkhamsted | 1/3 | 11¼ |
| Berwick | 1/4½ | 1/0½ |
| Beverley | 1/5½ | 1/1¼ |
| Bexhill-on-Sea | 1/3½ | 11¾ |
| Bideford | 1/3½ | 11¾ |
| Biggleswade | 1/3 | 11¼ |
| Billericay | 1/3 | 11¼ |
| Birchington | 1/3 | 11¼ |
| Birkenhead | 1/7‡ | 1/2½ |
| Birmingham | 1/5½ | 1/1¼ |
| Bishop Auckland | 1/5 | 1/0¾ |
| Bishops Stortford | 1/4 | 1/0 |
| Blackburn | 1/5½ | 1/1¼ |
| Blackpool | 1/5½ | 1/1¼ |
| Blyth | 1/5½ | 1/1¼ |
| Bognor Regis | 1/3 | 11¼ |
| Bolton | 1/5½ | 1/1¼ |
| Bournemouth | 1/4½ | 1/0½ |
| Bracknell | 1/3 | 11¼ |
| Bradford | 1/5½ | 1/1¼ |
| Bradford-on-Avon | 1/2½* | 11 |
| Braintree | 1/3½ | 11¾ |
| Brentwood | 1/5 | 1/0¾ |
| Bridgwater | 1/3½ | 11¾ |
| Bridlington | 1/5 | 1/0¾ |
| Brighouse | 1/5½ | 1/1¼ |
| Brighton | 1/4½ | 1/0½ |
| Bristol | 1/5½ | 1/1¼ |
| Broadstairs | 1/3 | 11¼ |
| Bromsgrove | 1/4½ | 1/0½ |
| Bromyard | 1/2 | 10½ |
| Buckley | 1/5½ | 1/1¼ |
| Bungay | 1/1½ | 10¼ |
| Burnham-on-Crouch | 1/2 | 10½ |
| Burnley | 1/5½ | 1/1¼ |
| Burslem | 1/5½ | 1/1¼ |
| Burton-on-Trent | 1/5½ | 1/1¼ |
| Bury | 1/5½ | 1/1¼ |
| Bury St. Edmunds | 1/3 | 11¼ |
| Buxton | 1/5 | 1/0¾ |
| Byfleet | 1/3½ | 11¾ |
| Cambridge | 1/5 | 1/0¾ |
| Canterbury | 1/3 | 11¼ |
| Cardiff | 1/5½ | 1/1¼ |
| Carlisle | 1/5½ | 1/1¼ |
| Carnforth | 1/5½ | 1/1¼ |
| Castleford | 1/5½ | 1/1¼ |
| Caterham | 1/4 | 1/- |
| Chard | 1/2½* | 11 |
| Chatham | 1/4 | 1/- |
| Chelmsford | 1/4 | 1/- |
| Cheltenham | 1/4 | 1/- |
| Chepstow | 1/4½ | 1/0½ |
| Chertsey | 1/4 | 1/- |
| Chester | 1/5½ | 1/1¼ |
| Chesterfield | 1/5½ | 1/1¼ |
| Chichester | 1/3 | 11¼ |
| Chorley | 1/5½ | 1/1¼ |
| Cirencester | 1/3* | 11½ |
| Clacton | 1/3½ | 11¾ |
| Cleveleys | 1/5½ | 1/1¼ |
| Clitheroe | 1/5½ | 1/1¼ |
| Cobham | 1/4 | 1/- |
| Colchester | 1/4½ | 1/0½ |
| Colwyn Bay | 1/4½ | 1/0½ |
| Congleton | 1/5 | 1/0¾ |
| Coventry | 1/5½ | 1/1¼ |
| Cranbrook | 1/2 | 10½ |
| Cranleigh | 1/2½ | 11 |
| Crawley | 1/3½ | 11¾ |
| Crewe | 1/4½ | 1/0½ |
| Cromer | 1/2½ | 11 |
| Crowborough | 1/3½ | 11¾ |
| Cuckfield | 1/3½ | 11¾ |
| Darlington | 1/5½ | 1/1¼ |
| Darwen | 1/5½ | 1/1¼ |
| Daventry | 1/4 | 1/- |
| Deal | 1/3 | 11¼ |
| Denbigh | 1/4 | 1/- |
| Derby | 1/5½ | 1/1¼ |
| Devizes | 1/2* | 10½ |
| Dewsbury | 1/5½ | 1/1¼ |
| Didcot | 1/3½ | 11¾ |
| Diss | 1/2 | 10½ |
| Doncaster | 1/5½ | 1/1¼ |
| Dorchester | 1/3* | 11¼ |
| Dorking | 1/3½ | 11¾ |
| Dover | 1/3 | 11¼ |
| Dovercourt | 1/3½ | 11¾ |
| Driffield | 1/4 | 1/- |
| Droitwich | 1/4½ | 1/0½ |
| Dudley | 1/5½ | 1/1¼ |
| Dunstable | 1/3½ | 11¾ |
| Durham City | 1/5½ | 1/1¼ |
| Eastbourne | 1/4½ | 1/0½ |
| E.Glam.(Mon.Val.) | 1/5 | 1/0¾ |
| East Grinstead | 1/3½ | 11¾ |
| Edenbridge | 1/3½ | 11¾ |
| Ely | 1/2 | 10½ |
| Epping | 1/4½ | 1/0½ |
| Exeter | 1/4½† | 1/0½ |
| Exmouth | 1/3½ | 11¾ |
| Fakenham | 1/2 | 10½ |
| Falmouth | 1/4 | 1/- |
| Fareham | 1/3 | 11¼ |
| Faversham | 1/2½ | 11 |
| Felixstowe | 1/4 | 1/- |
| Filey | 1/4 | 1/- |
| Fleetwood | 1/5½ | 1/1¼ |
| Flint | 1/5 | 1/0¾ |
| Folkestone | 1/3 | 11¼ |
| Frinton-on-Sea | 1/3½ | 11¾ |
| Frome | 1/2½* | 11 |
| Gainsborough | 1/4½ | 1/0½ |
| Gateshead | 1/5½ | 1/1¼ |
| Gillingham | 1/4 | 1/0 |
| Glossop | 1/5 | 1/1¼ |
| Gloucester | 1/4½† | 1/0½ |
| Godalming | 1/3½ | 11¾ |
| Goole | 1/4½ | 1/0½ |
| Gosport | 1/4½ | 1/0½ |
| Grantham | 1/4 | 1/- |
| Gravesend | 1/5 | 1/0¾ |
| Gt. Yarmouth | 1/3½ | 11¾ |
| Grimsby | 1/5½ | 1/1¼ |
| Guildford | 1/3½ | 11¾ |
| Guilsborough | 1/4 | 1/- |
| Halifax | 1/5½ | 1/1¼ |
| Hanley | 1/5½ | 1/1¼ |
| Harpenden | 1/4 | 1/- |
| Harrogate | 1/5½ | 1/1¼ |
| Hartlepools | 1/5½ | 1/1¼ |
| Harwich | 1/3½ | 11¾ |
| Haslemere | 1/2½ | 11 |
| Hastings | 1/3 | 11¼ |
| Hatfield | 1/4½ | 1/0½ |
| Haywards Heath | 1/3½ | 11¾ |
| Hednesford | 1/5 | 1/0¾ |
| Hemel Hempstead | 1/4½ | 1/0½ |
| Henley | 1/3½ | 11¾ |
| Hereford | 1/3½* | 11¾ |
| Herne Bay | 1/3 | 11¼ |
| Hertford | 1/4½ | 1/0½ |
| Heysham | 1/5½ | 1/1¼ |
| Hitchin | 1/4 | 1/- |
| Hoddesdon | 1/4½ | 1/0½ |
| Holt | 1/1½ | 10¼ |
| Horley | 1/3 | 11¼ |
| Horsham | 1/3 | 11¼ |
| Horwich | 1/5½ | 1/1¼ |
| Huddersfield | 1/5½ | 1/1¼ |
| Hull | 1/5½ | 1/1¼ |
| Hunstanton | 1/2 | 10½ |
| Huntingdon | 1/2½ | 11 |
| Ilfracombe | 1/3½ | 11¾ |
| Ingatestone | 1/3 | 11¼ |
| Ipswich | 1/4½ | 1/0½ |
| Isle of Thanet | 1/3 | 11¼ |
| Isle of Wight | 1/2½ | 11 |
| Keighley | 1/5½ | 1/1¼ |
| Kenilworth | 1/5½ | 1/1¼ |
| Kettering | 1/5 | 1/0¾ |
| Kidderminster | 1/4½ | 1/0½ |
| King's Lynn | 1/3 | 11¼ |
| Kirkham | 1/5½ | 1/1¼ |
| Knowle | 1/5 | 1/0¾ |
| Lancaster | 1/5½ | 1/1¼ |
| Leamington | 1/5 | 1/0¾ |
| Leatherhead | 1/4½ | 1/0½ |
| Leeds | 1/5½ | 1/1¼ |
| Leicester | 1/5½ | 1/1¼ |
| Leighton Buzzard | 1/2½ | 11 |
| Letchworth | 1/4 | 1/- |
| Lewes | 1/2 | 10½ |
| Lichfield | 1/4½ | 1/0½ |
| Lincoln | 1/5½ | 1/1¼ |
| Littlehampton | 1/3 | 11¼ |
| Liverpool | 1/7‡ | 1/2½ |
| Llandudno | 1/4½ | 1/0½ |
| Llanelly | 1/5½ | 1/1¼ |
| London— | | |
| 12 m. radius | 1/7* | 1/2¼ |
| 12-15 m. radius | 1/6½* | 1/2 |
| Long Eaton | 1/5½ | 1/1¼ |
| Longton | 1/5½ | 1/1¼ |
| Loughborough | 1/5½ | 1/1¼ |
| Louth | 1/4 | 1/- |
| Lowestoft | 1/3½ | 11¾ |
| Luton | 1/5 | 1/0¾ |
| Macclesfield | 1/5 | 1/0¾ |
| Maidenhead | 1/4 | 1/- |
| Maidstone | 1/4 | 1/- |
| Malvern | 1/4 | 1/- |
| Manchester | 1/5½ | 1/1¼ |
| Manningtree | 1/2 | 10½ |
| Mansfield | 1/5½ | 1/1¼ |
| March | 1/2½ | 11 |
| Margate | 1/3 | 11¼ |
| Market Harborough | 1/4½ | 1/0½ |
| Matlock | 1/4 | 1/- |
| Melton Constable | 1/1½ | 10¼ |
| Melton Mowbray | 1/4½ | 1/0½ |
| Merthyr Tydfil | 1/5 | 1/0¾ |
| Middlesbrough | 1/5½ | 1/1¼ |
| Middleton | 1/5½ | 1/1¼ |
| Middlewich | 1/4½ | 1/0½ |
| Milford Haven | 1/3½ | 11¾ |
| Morecambe | 1/5½ | 1/1¼ |
| Morley | 1/5½ | 1/1¼ |
| Mundesley | 1/2½ | 11 |
| Nantwich | 1/4½ | 1/0½ |
| Newark-on-Trent | 1/4½ | 1/0½ |
| Newbury | 1/3 | 11¼ |
| Newcastle-on-Tyne | 1/5½ | 1/1¼ |
| Newcastle-u.-Lyme | 1/5½ | 1/1¼ |
| New Forest | 1/2½ | 11 |
| Newmarket | 1/3½ | 11¾ |
| Newport, Mon. | 1/5½ | 1/1¼ |
| Newport Pagnell | 1/2½ | 11 |
| Northampton | 1/5½ | 1/1¼ |
| Norwich | 1/5 | 1/0¾ |
| Nottingham | 1/5½ | 1/1¼ |
| Nuneaton | 1/5½ | 1/1¼ |
| Oakham | 1/4 | 1/- |
| Oldham | 1/5½ | 1/1¼ |
| Ormskirk | 1/5½ | 1/1¼ |
| Oxford | 1/5 | 1/0¾ |
| Oxted | 1/2½ | 11 |
| Paignton | 1/5 | 1/0¾ |
| Peterborough | 1/5 | 1/0¾ |
| Plymouth | 1/5½† | 1/1¼ |
| Pontypridd | 1/5 | 1/0¾ |
| Portsmouth | 1/4½ | 1/0½ |
| Port Talbot | 1/5½ | 1/1¼ |
| Preston | 1/5½ | 1/1¼ |
| Pulborough | 1/2 | 10½ |
| Ramsgate | 1/3 | 11¼ |
| Reading | 1/4½ | 1/0½ |
| Redcar | 1/5½ | 1/1¼ |
| Redditch | 1/4½ | 1/0½ |
| Redhill | 1/3½ | 11¾ |
| Reigate | 1/3½ | 11¾ |
| Retford | 1/4 | 1/- |
| Ripon | 1/4 | 1/- |
| Rochdale | 1/5½ | 1/1¼ |
| Rochester | 1/4 | 1/0 |
| Rugby | 1/5½ | 1/1¼ |
| Saffron Walden | 1/2 | 10½ |
| St. Albans | 1/5 | 1/0¾ |
| St. Helens | 1/5½ | 1/1¼ |
| St. Neots | 1/2½ | 11 |
| Salisbury City | 1/2½* | 11 |
| Salisbury Plain | 1/2½* | 11 |
| Sawbridgeworth | 1/3½ | 11¾ |
| Saxmundham | 1/1½ | 10¼ |
| Scarborough | 1/5 | 1/0½ |
| Selby | 1/5½ | 1/1¼ |
| Sevenoaks | 1/4 | 1/- |
| Sheerness | 1/3 | 11¼ |
| Sheffield | 1/5½ | 1/1¼ |
| Shipley | 1/5½ | 1/1¼ |
| Shoeburyness | 1/5 | 1/0¾ |
| Shoreham | 1/4 | 1/- |
| Shrewsbury | 1/4½ | 1/0½ |
| Sittingbourne | 1/2½ | 11 |
| Skegness | 1/4½ | 1/0½ |
| Sleaford | 1/4 | 1/- |
| Slough | 1/4½ | 1/0½ |
| Southampton | 1/4½ | 1/0½ |
| Southend on Sea | 1/5 | 1/0¾ |
| Southport | 1/5½ | 1/1¼ |
| South Shields | 1/5½ | 1/1¼ |
| Spalding | 1/3 | 11¼ |
| Stafford | 1/5 | 1/0¾ |
| Staines | 1/4½ | 1/0½ |
| Stamford | 1/4 | 1/- |
| Stevenage | 1/4 | 1/- |
| Stockport | 1/5½ | 1/1¼ |
| Stockton-on-Tees | 1/5½ | 1/1¼ |
| Stoke-on-Trent | 1/5½ | 1/1¼ |
| Stourbridge | 1/5 | 1/0¾ |
| Stourport | 1/4½ | 1/0½ |
| Stowmarket | 1/2 | 10½ |
| Stratford-on-Avon | 1/4 | 1/- |
| Stroud | 1/4† | 1/- |
| Sunderland | 1/5½ | 1/1¼ |
| Sutton Coldfield | 1/5½ | 1/1¼ |
| Swaffham | 1/1½ | 10¼ |
| Swanage | 1/3½* | 11¾ |
| Swansea | 1/5½ | 1/1¼ |
| Swindon | 1/4* | 1/- |
| Tamworth | 1/5 | 1/0¾ |
| Taunton | 1/3½ | 11¾ |
| Tenterden | 1/2½ | 11 |
| Tewkesbury | 1/4* | 1/- |
| Thetford | 1/2 | 10½ |
| Thorpe Bay | 1/5 | 1/0¾ |
| Todmorden | 1/5½ | 1/1¼ |
| Tonbridge | 1/4 | 1/0 |
| Torquay | 1/5 | 1/0½ |
| Totnes | 1/3½† | 11¾ |
| Trowbridge | 1/2½* | 11 |
| Truro | 1/2½ | 11 |
| Tunbridge Wells | 1/4 | 1/- |
| Uppingham | 1/4 | 1/- |
| Uttoxeter | 1/4 | 1/- |
| Wakefield | 1/5½ | 1/1¼ |
| Walsall | 1/5½ | 1/1¼ |
| Walsden | 1/5½ | 1/1¼ |
| Walton-on-Naze | 1/3½ | 11¾ |
| Ware | 1/4½ | 1/0½ |
| Warminster | 1/2½* | 11 |
| Warrington | 1/5½ | 1/1¼ |
| Warwick | 1/5 | 1/0¾ |
| Wellingborough | 1/5 | 1/0¾ |
| Wells (Norfolk) | 1/1½ | 10¼ |
| Welwyn | 1/4½ | 1/0½ |
| Welwyn Gar.City | 1/5½ | 1/1¼ |
| West Bromwich | 1/5½ | 1/1¼ |
| Westcliff-on-Sea | 1/5 | 1/0¾ |
| Weston-super-Mare | 1/4½ | 1/0½ |
| Weybridge | 1/4 | 1/- |
| Weymouth | 1/3* | 11¼ |
| Whitby | 1/4½ | 1/0½ |
| Whitstable | 1/3 | 11¼ |
| Widnes | 1/5½ | 1/1¼ |
| Wigan | 1/5½ | 1/1¼ |
| Wigton | 1/4 | 1/- |
| Willington | 1/5 | 1/0¾ |
| Wilmslow | 1/5½ | 1/1¼ |
| Winchester | 1/3½ | 11¾ |
| Windermere | 1/4 | 1/- |
| Windsor | 1/4½ | 1/0½ |
| Wisbech | 1/2½ | 11 |
| Witham | 1/3½ | 11¾ |
| Woking | 1/3½ | 11¾ |
| Wokingham | 1/3½ | 11¾ |
| Wolverhampton | 1/5½ | 1/1¼ |
| Woodbridge | 1/2½ | 11 |
| Worcester | 1/4½ | 1/0½ |
| Workington | 1/4 | 1/- |
| Worksop | 1/4½ | 1/0½ |
| Worthing | 1/3 | 11¼ |
| Wrexham | 1/5 | 1/0¾ |
| Wroxham | 1/3 | 11¼ |
| Wycombe | 1/4 | 1/- |
| Wymondham | 1/2 | 10½ |
| Yeovil | 1/3½* | 11¾ |
| York | 1/5½ | 1/1¼ |

* Painters, 1d. less than other Craftsmen. † Painters, ½d. less than other Craftsmen. ‡ Plasterers, 1s. 8d.

For Building Trade Wages in Scotland, see page 760.

# CONTRACTS OPEN

**For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary.**

***The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.***

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

## BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

### APRIL 22.

**Darnley.**—Repainting Work.—And decoration of wards and other offices at hospital. J. C. Fraser, Clerk, County Buildings, Paisley.

**Driffield.**—Erection.—Of 6 houses at Bainton, for R.D.C. R. B. Tollett.

**Driffield.**—Erection.—Of 6 houses at North Walton, for R.D.C. R. B. Tollett.

**Edinburgh.**—Demolition.—Of buildings, 34/42, North Richmond-st. and 113/115, St. Leonard's-st., for T.C. City E.

**Padstow.**—Houses.—22, or for 14, or for whole 36, for U.D.C. R. Hayhurst, S. Dep. £2 2s.

**Parkhurst.**—Reconstruction.—Of kitchen at Institution, for Isle of Wight C.C. S. R. Cocks, C.S., 5, St. Thomas'-st., Ryde.

**Royton.**—Houses.—12, at Hall-st. site, for U.D.C. S. Dep. £2 2s.

**Walton and Weybridge.**—Houses.—7, in Molesey-rd., Hersham, Walton-on-Thames, for U.D.C. P. Wilds, E. and S.

**West Sussex.**—Erection.—Cottage at Slindon, near Chichester, for C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £1 1s.

**West Sussex.**—Demolition.—Of existing cottage and erection of pair cottages at Wick, near Littlehampton, for C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £1 1s.

### APRIL 23.

**Bingham.**—Houses.—8 at Keyworth, for R.D.C. C. W. Kendrick, S. Dep. £3.

**Chipping Norton.**—Erection.—Of two cottages at Milton-under-Wychwood, for R.D.C. T. Rayson. F.R.I.B.A., 47, Broad-st., Oxford.

**Drayton.**—Houses.—8, on various sites, for R.D.C. A. P. Lovatt, architect, 2, King-st., Newcastle-under-Lyme, Staffs. Dep. £2 2s.

**Durham.**—Outside Painting.—Of various police stations and houses, for C.C. William J. Merrett, C.E., S. and Architect, 43, Old Elvet, Durham.

**London.** — Reconstruction. — Of portion of buildings of Kilburn Polytechnic, Priory Park-rd., N.W.6, for Middlesex C.C. H. M. Walton, Secretary, 10, Great George-st., S.W.1. Dep. £2 2s.

**Manchester.**—Erection.—Of 356 houses, for T.C. Housing Director. Dep. £2 2s.

**Middlesex.** — Enlargement. — Of Harrow County School for Girls, for C.C. H. M. Walton, Secretary, 10, Great George-st., S.W.1. Dep. £2 2s.

**Middlesex.** — Enlargement. — Of Ealing County School for Boys, for C.C. H.M. Walton, Secretary, 10, Great George-st., S.W.1. Dep. £2 2s.

**Middlesex.** — Erection. — Of elementary school in Danethorpe-rd., Alperton, Wembley, for C.C. H. M. Walton, Secretary, 10, Great George-st., S.W.1. Dep. £2 2s.

**Runcorn.**—Houses.—2, in Frandley, Seven Oaks, for R.D.C. J. O. Hunter, Castle Park, Frodsham, via Warrington.

**Shenley, Herts.**—Alterations.—And additions to Shenleybury Farm, Shenley Mental Hospital, for Middlesex C.C. County Architect, 10, St. George-st., London, S.W.1. Dep. £2 2s.

**Tendring.**—Cottages.—6, at Little Oakley, for R.D.C. F. G. Vincent-Brown, architect, Dovercourt Bay

**Wallasey.**—External Painting.—Of pier buildings, for T.C. B.E. Dep. £2 2s.

**Whitehaven.**—Erection.—120 houses on Woodhouse site, for T.C. B.E. and S. Dep. £2 2s.

**Whittingham, nr. Preston.**—Painting.—At Mental Hospital, for Committee of Visitors.

**Worthing.**—Club House.—In Beach House Park, for T.C. B.E.

### APRIL 24.

**Biggleswade.**—Installation.—Of electric lighting at institution, for Bedfordshire C.C. C.S., Shire Hall, Bedford.

**Blackpool.**—Conveniences.—And cleansing depot at Rigby-rd., for T.C. B.S. Dep. £2.

***Bootle.**—Erection.—Of 51 houses, for C.B. B.E. and S. Dep. £2 2s.

**Derby.** — Additions. — To school clinic, Mill Hill-ln., for E.C. C. H. Aslin, F.R.I.B.A. Dep. £1 1s.

**Erith.**—School.—At Bedonwell Hill, Belvedere, for U.D.C. J. H. Clayton, architect. Dep. £5 5s.

**Leeds.**—Installation.—Of electric lighting and power at the Washhouse, Meanwood-rd., for the T.C. J. E. Acfield, City E.

**Leyton.** — Remodelling. — Of latrines at four schools—Farmer-rd., Norlington-rd., Davies-lane and Mayville-rd.—for T.C. J. H. Jacques, F.R.I.B.A., 61, West Ham-lane, Stratford, E.15. Dep. £1 each application.

**Liverpool.**—Erection.—Of 413 houses on Finch House estate, for T.C. T.C. Dep. £1 1s.

**Llanfyllin.**—Houses.—5, at Llanfair, Caereinion, and 3 at Tanyffridd, Llangyniew, for R.D.C. R. A. Jones, Architect, "Bwythyn-Hedd." Dep. £2 2s.

**London.**—Construction.—Of reinforced concrete electricity sub-station at Sutton-st. East, Shadwell, E.1, for Stepney B.C. B.E. and S. Dep. £5.

**Oakham.**—Houses.—6, and laying of 130 yd. of 9 in. sewer at Langham, for R.D.C. E. Hollis Farrant, Clerk to the Council, 6, Market-pl., Oakham.

***Portsmouth.**—Alterations and Additions.—To Cottage Grove School, for E.C. Adrien J. Sharp, L.R.I.B.A. Dep. £2 2s.

**Salisbury.**—Installation.—Of unit heaters and hot-water service apparatus at head post office telephone exchange and garage, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

**West Ham.** — Erection. — Of new hall at Carpenter's-rd., school, Stratford, for C.B. J. H. Jacques, F.R.I.B.A., 61, West Ham-lane, E.15. Dep. £1.

**West Ham.**—Remodelling.—Of latrines at various schools, for C.B. J. H. Jacques, F.R.I.B.A., 61, West Ham-lane. Dep. £1.

### APRIL 25.

***Blaenau Festiniog.** — Extensions. — To War Memorial Hospital. R. C. Jones, L.R.I.B.A., Cae'rblaidd Offices. Dep. £2 2s.

**Bristol.**—Cottages.—A pair at Manor-rd., Fishponds, for Mental Hospital Committee. H. A. Wilkins, Steward.

**Bushey Heath.**—Erection.—Of Telephone Exchange (Herts), for H.M.O.W. Room 65D., Third Floor, H.M. Office of Works, London, S.W.1. Dep £1.

**Canterbury.**—Foundation Work.—At Telephone Exchange, for H.M.O.W. Room 65D., Third Floor, H.M. Office of Works, London, S.W.1. Dep £1.

**Coventry.** — Erection. — Of 10 houses on Hen-ln. housing estate (Wheelwright's-ln.), for T.C. A. F. Underhill, L.R.I.B.A. Dep. £3 3s.

**Darfield.**—Houses.—40, off Woodhall-lane, for U.D.C. Dyson, Cawthorne & Coles, architects, 25, Regent-st., Barnsley.

**Derby.** — Installation. — Of centralised scheme of heating and hot water services at Boundary House, for Public Assistance Committee. C. H. Aslin, F.R.I.B.A. Dep. £1 1s.

**Derby.** — Erection. — Of 584 houses on Roe Farm site, for C.B. C. H. Aslin, F.R.I.B.A. Dep. £1 1s.

**Derby.** — Construction. — Of calorifier room and heating ducts at Boundary House, for Public Assistance Committee. C. H. Aslin, F.R.I.B.A. Dep. £1 1s.

**East Retford.**—Outside Painting.—Of 48 houses on Hallcroft housing estate, for T.C. B.S.

**Enfield.**—Erection.—Of additional accommodation at Suffolk Schools, Buck-lane, for U.D.C. F. G. Apthorpe, M.A. Dep. £2 2s.

**Festiniog.**—Extensions.—To District War Memorial Hospital. R. C. Jones, Architect, Cae'rblaidd Offices, Blaenau Festiniog. Dep. £2 2s.

**Hatfield.**—Houses.—74 and 12 flats on Birchwood Farm estate, for R.D.C. J. R. Howarth, S. Dep. £2 2s.

**Newburn-on-Tyne.**—Premises.—For use as relief office, for Northumberland C.C. County Architect, County Hall, Newcastle-on-Tyne. Dep. £1.

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**Oldbury.**—Demolition.—Of 13 houses and erection of 12 houses at Bell Fold, for U.D.C. E. and S. Dep. £2 2s.

**Richmond (Surrey).**—Demolition.—Of 22 cottages, adjoining Kew-rd., for T.C. B.E. Dep. £1 1s.

**Warton, Carnforth.**—House.—H. S. Robinson, 21, Lancaster-rd., Carnforth.

**Wolverton.**—Houses.—18 on King-st. housing site, Stony Stratford, for U.D.C. A. Baker, F.I.A.S., architect and surveyor. Dep. £1 1s.

### APRIL 26.

**Alton.** — Erection. — Of two pairs cottages at Bentworth (Hants), for R.D.C. A. E. Bennett, B.S. Dep. £2 2s.

**Armagh.**—Alterations.—Additions and improvements, County Infirmary, for C.C. W. H. Stephens & Sons, surveyors, 13, Donegal-sq. North, Belfast. Dep. £3 3s.

**Bakewell.**—Houses.—5, at Tideswell and Calver, for R.D.C. G. V. Sayner, L.R.I.B.A., 4, Grove-parade, Buxton.

**Cardiff.**—School.—And caretaker's house, at Muirton-rd., Splott Park, for E.C. G. H. Whitaker, Architect. Dep. £2 2s.

**Chepstow.**—Alterations.—To heating and hot water services at Ministry of Pensions Hospital, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

**Croydon.** — Construction. — Of sludge digestion tank, heather house, etc., in reinforced concrete, at South Norwood sewage farm, for C.B. B.E. Dep. £2 2s.

**Doncaster.**—Demolition.—And rebuilding of coal store walls at gas works, for T.C. Gas E., Gas Works. Dep. £2 2s.

**London.**—Extensions.—And alterations to East Telephone Exchange (West India Dock-rd., E.14), for H.M.O.W. Room 65D., Third Floor, H.M. Office of Works, London, S.W.1. Dep £1

**Merton.**—Erection.—Of 2 houses in Mawson-close, for U.D.C. E. and S., Kingston-rd., S.W.9. Dep. £1.

***Willesden.**—Construction.—Of public bath and washhouses at Granville-rd., Kilburn, for B.C. B.E., Dyne-rd., N.W.6. Dep. £10 10s.

**Winchester.**—Erection.—Of five cottages at Bull Farm, Kings Worthy, for C.B. of Southampton, Clerk, The Castle, Winchester. Dep. £1 1s.

**Woking.**—Installation.—Of heating and hot water services at S.O. and garages, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

### APRIL 27.

**Downpatrick.**—Cinema.—At Market-st., for T. Breen. H. L. Taggart, architect, Irish-st. Dep. £2 2s.

**Edmonton.** — Erection. — Of Higher Grade Senior Mixed School, caretaker's cottage, boundary walls and fencing at Bull-lane, for E.C. Talbot Brown & Fisher, architects, Burystead-place, Wellingborough, Northants. Dep. £2 2s.

**Luton.**—Relief Office.—At Public Assistance Institution, for Bedfordshire C.C. C.S., Shire Hall, Bedford. Dep. £1 1s.

**Menston, near Leeds.**—Erection.—Of cubicle block, additions to administration block and laundry block, and incidental works at Isolation Hospital, for Wharfedale Union Joint Isolation Hospital Committee. W. J. Morley & Son, chartered architects, 269, Swan-parade, Bradford. Dep. £1.

**Middleton-in-Teesdale.**—Cells.—Two, and alterations at police station, for Durham C.C. C.S., 20, Old Elvet, Durham.

**Newtown.**—Houses.—6, on Llanidloes-rd., for Newtown and Llanllwchaiarn U.D.C. A. Stanley Hill, Architect.

**Samford.**—Houses.—6 at East Bergholt, for R.D.C. H. Watling, S. Dep. £2 2s.

**Stevenage.**—Flats.—4, in Walkern-rd., for U.D.C. R. A. Gandy, E. and S. Dep. £2 2s.

**Yeovil.**—Conveniences.—At Court Ash, for T.C. B.S.

### APRIL 29.

**Birmingham.** — Extension. — Of motor garage, Chester-st., for T.C. A. W. Smith, general manager and secretary, Gas Dept., Council House. Dep. £2.

**Bredbury and Romiley.**—Cemetery chapel.—At Highfield Park, Bredbury, for U.D.C. S. Dep. £2 2s.

**Bucklow.**—Houses.—6 in Paddock-ln., Warburton, together with drainage and all appurtenant work, for R.D.C. H. V. Shaw, E. and S., 26, Station-bldgs., Altrincham. Dep. £2 2s.

**Chesterfield and Bolsover.**—Pump House.—At Whaley Village, for Water Board. Chas. Boldry, E., West Bars. Dep. £2 2s.

**Croydon.**—Pavilion.—At Ashburton Park Recreation Ground, for T.C. B.E. Dep. £3 3s.

**Devizes.**—Exterior Painting.—14 houses at Bricksteed-av., for T.C. A. W. Jakeway, B.S.

**Eastleigh.**—Bungalows.—62 for aged persons on Shelley-rd. housing site, for T.C. C.E. and S. Dep. £5 5s.

**Houghton-le-Spring.**—Houses.—4, on Hall-lane estate, for U.D.C. V. J. Hunter, S. Dep. £2 2s.

**Llwchwr.**—Houses.—32, on various sites, for U.D.C. J. Teifion J. Williams, Architect. Dep. £2 2s.

**Newmarket.**—Houses.—24, at rear of Malting-yd., Exning, for U.D.C. W. E. Sley, surveyor and Architect, Godolphin House. Dep. £2 2s.

**Newtown and Llanllwchaiarn.**—Houses.—6, at Llanidloes-rd., Newtown, for U.D.C. A. Stanley Hill, architect, Newtown.

**Ossett.**—Repainting.—And redecorating of interior of town hall, offices and public hall, for T.C. B.S.

**Rothwell.**—Wiring.—Of 456 houses, for U.D.C. C. A. E. Snell, E. and S.

**Sanquhar.**—Houses.—28, adjoining Castle-st., for T.C. William Scott, architect, Inglewood.

**Stratford-upon-Avon.**—Houses.—8, at Oak-rd, Tiddington, for T.C. F. W. Jones, B.S. Dep. £1 1s.

**Yorkshire.**—Works.—In connection with: Goole Grammar School—extension to girls' changing

room; Hebden Bridge Grammar School—provision and fixing of domestic hot water supply; Ripon Grammar School—asphalting work to playgrounds, for West Riding C.C. Education Officer, County Hall, Wakefield.

**APRIL 30.**

**Aldershot.**—Wiring.—Of 32 houses, now in course of erection on housing estate, Aldershot Park, for T.C. B.S.

**Builth Wells.**—Extensions.—To Cottage Hospital, for Governors. Johnson, Richards & Rees, architects, Merthyr Tydfil. Dep. £3 3s.

**East Heddon.**—Houses.—And outbuildings, for Northumberland E.C. County Land Agent, County Hall, Newcastle-on-Tyne, 1.

**Featherstone (Yorks).**—Erection.—Of 13 houses and 13 houses for aged people at Little-ln., Purston, for U.D.C. S. Chesney, A.R.I.B.A. Dep. £3 3s.

**Langholm.**—Houses.—2 four-apartment and 4 three-apartment, for T.C. C. Constable, T.C. Dep. £1 1s.

**Leytonstone.**—Erection.—Of nurses' home and maids' quarters at Whipps Cross Hospital, for C.B. of West Ham. B.E. Dep. £1.

**Northfleet.**—Houses.—18, for U.D.C. J. A. Mitchell, S. Dep. £5.

**MAY 1.**

**Chippenham.**—Erection.—Of 76 cottages and 3 houses at Woodlands, also 12 bungalows at Woodln., for T.C. B.S. Dep. £5 5s.

***Durham.**—Construction.—Of 170 houses, sewers, roads, etc., at Sherburn-rd., for T.C. T.C. Dep. £5 5s.

***Durham.**—Taking Over.—And completion of 100 houses, sewers, concrete roads, etc., Sherburn-rd., for T.C. T.C. Dep. £5 5s.

**East Grinstead.** — Alterations. — At Nos. 146-148, London-rd., for Electricity Showrooms and Offices, for U.D.C. E. and S.

***Sevenoaks.**—Houses.—156, and roads, etc., in various parishes, for R.D.C. C. R. Lynam, Building Surveyor. Dep. £2 2s.

**Wandle Valley.**—Repairs.—Alterations and additions to hospital buildings, for Joint Hospital Board. E. W. Gunner, clerk, Beddington Corner, Mitcham Junction. Dep. 10s. 6d.

**MAY 3.**

**Ampthill.**—Houses.—14, at The Crescent, for U.D.C. R. H. Orme, clerk, 88, Dunstable-st. Dep. £2 2s.

***Plymouth.**—Alterations.—To premises at East End of Guildhall. T.C. Dep. £2 2s.

**MAY 4.**

**Bury St. Edmunds.**—Tenements.—8, on Grove Park housing site, for T.C. Roland H. Beaumont, B.S. Dep. £2 2s.

***Hereford.**—Enlargement and Conversion.—Of Industrial School, Bath-st., for C.C. Offices for C.C. County Architect. Dep. £5 5s.

***Kensington.**—Structural Alterations.—Road excavation, etc., in connection with installation of new boilers at public baths, Lancaster-rd., W.11, for B.C. B.E.

**MAY 6.**

***Luton.**—Erection.—Two new ward blocks, etc. at Isolation Hospital, Spittlesea, Kimpton-rd., for T.C. E. and S. Dep. £3 3s.

**Stornoway.**—Houses.—64, on various sites, for T.C. B.S.

**MAY 7.**

***Croydon.**—Erection.—Of extension to garage at electricity works, Factory-ln., for C.B. Chief Engineer, 38, High-st. Dep. £1 1s.

***Weymouth.**—Erection.—Of 32 houses and 16 flats, for T.C. B.E. and S., 6, Pultney Buildings. Dep. £2 2s.

**MAY 8.**

**Rugeley.**—Fire Station.—Ambulance station and mortuary, for U.D.C. W. E. Rogers, S., Anson-st. Dep. £2 2s.

**Wandsworth.**—Converting.—To slipper baths of men's first and second class shower baths at Tooting Baths, High-st., S.W.17, for B.C. B.E., 215, Balham High-rd., S.W.17. Dep. £1 1s.

**MAY 9.**

***London.**—Purchase.—Demolition and removal of material contained in house and outbuildings known as "Brampton," Charlton-rd., S.E.7, for M.B. of Greenwich. B.E. and S.

**MAY 11.**

***Eccles.**—Erection.—Of 80 houses, for T.C. B.E. and S. Dep. £2 2s.

**Preston.**—Installation.—Of heating apparatus and domestic hot-water supply at Fishwick School, for T.C. E. and S. Dep. £1.

**MAY 13.**

**Colchester.**—Lavatories.—And shelter, at Colne Bank-ave., for T.C.. Dep. £2 2s.

**MAY 15.**

**Stoke-on-Trent.**—Repairs.—To houses in Hanley, for T.C. Chief Sanitary Inspector, St. Peter's Chambers, Glebe-st.

**MAY 16.**

***Southgate.**—Erection.—Of public convenience and shelter, North Circular-rd., for B.C. R. Phillips, B.S. Dep. £2.

**MAY 17.**

**Naas.**—Installation.—Of heating, panel system and hot water services at Hospital for Communicable Diseases, for Kildare County Board of Health. Vincent Kelly, architect, 87, Merrion-sq., Dublin. Dep. £15 15s.

**NO DATE.**

**Buckhaven and Methil.**—Houses.—16 at Herriotcres., Methil, for T.C. Edmond L. Forsyth, architect and surveyor, Methilbrae, Methil.

**Chester.**—Additions.—At Queen's school, Douglas. Minshull & Williams, L.R.I.B.A., architects, 6, Abbey-sq. Dep. £2 2s.

**Kendal.**—Store.—At sewage disposal works, for T.C. F. W. Oxberry, B.E. and S.

**Roxburgh.**—Houses.—16 at Newcastleton, 16 at St. Boswells, 6 at Newtown St. Boswells, and 12 at Ancrum, for T.C. Wilson & Tait, architects, Grangemouth.

## MATERIALS, etc.

**APRIL 23.**

**London (Acton).**—Road Materials.—For Gunnersbury Park Joint Committee. W. F. Armstrong, Park Superintendent.

**APRIL 24.**

**Litherland.**—Cement.—For U.D.C. G. Ponsford, E. and S.

## ENGINEERING, IRON AND STEEL

**APRIL 23.**

**Bournemouth.** — Installation. — Of aeration filtration and chemical treatment plant in public baths to be erected at Pier Approach, for C.B. T.C.

**APRIL 27.**

**Oldbury.**—Widening.—Of canal bridge over Titford Feeder of Birmingham Canal Navigations canal, for U.D.C. E. and S. Dep. £2 2s.

**MAY 3.**

**Birmingham.**—Constructional Steelwork.—In connection with erection of motor omnibus garage, Liverpool-st., for T.C. General Manager. Dep. £2 2s.

**MAY 4.**

**Cheadle and Gatley.**—Erection.—Of two steel-framed bus shelters, for U.D.C. J. Wrest, E. and S., Council Offices, Cheadle.

**MAY 7.**

**Crewe.**—Demolition.—Of existing bridge in Flag-lane, and erection of four-span bridge, for T.C. Leonard Reeves, Assoc.-M.Inst.C.E., F.S.I., B.E. and S. Dep. £2 2s.

**MAY 27.**

**South Africa.** — Structural Steel. — Including columns, purlins, roof trusses, galvanised gutters and down pipes, galvanised sheets, etc., for the extension of the blacksmith's shop, Bloemfontein, for Department of Overseas Trade, 35, Old Queen-st., London, S.W.1 (G.Y.14992).

## ROAD, SEWERAGE AND WATER WORKS.

**APRIL 22.**

**Eton.**—Surface Dressing.—Of roads, for U.D.C. J. S. Hattersley, S.

**Breconshire.**—Reconstruction.—Of Sennybridge-Gernos-rd., for C.C. J. M. Richards, C.S., County Offices, Watton. Dep. £10 10s.

**Musselburgh.** — Causeway Paving Work.—For Midlothian C.C. County Road S., Road Office, County-bldgs., Edinburgh.

**Parkhurst.**—Drainage Works.—And resurfacing of roads at Parkhurst Institution, for Isle of Wight C.C. County Highways S., County Hall, Newport, I.W.

**Royton.**—Construction.—Of sewers and roads in connection with lay-out of Stott Fields site, for U.D.C. S. Dep. £1 10s.


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**Solihull.**—Construction.—Of approx. 1,070 yds. of 9 in. stoneware pipes, in Mill-ln., Dorridge, with manholes and other incidental works, for U.D.C. R. Dunn, E. and S., Council Offices, Streetsbrook-rd. Dep. £2 2s.

**Wirral.**—Construction.—Of about 309 lin. yds. of 9-in. dia. stoneware sewer, Thingwall-rd., Irby, for U.D.C. S.

**APRIL 23.**

**Eton.**—Surface Dressing.—Of roads, for U.D.C. J. E. Hattersley, S.

**Ilford.**—Making-up.—And paving of Clayhall-av., for T.C. B.E. and S. Dep. £2 2s.

**APRIL 24.**

**Coulsdon and Purley.**—Making-up.—Of Gordon-av., Sanderstead, for U.D.C. S. Dep £1 1s.

**Reigate.**—Making-up.—Of Ringley Park-av., for T.C. G. G. Sanderson, B.S. Dep. £2 2s.

**Wembley.**—Making-up.—Roads and laying sewers in Manor Farm estate (extension), Manor Farm-rd., Alperton, for U.D.C. Treasurer and Accountant, 117a, High-rd. Dep. £2 2s.

**APRIL 25.**

**Castlecaulfield.**—Construction.—Of sewerage and sewage disposal works, water supply and fittings, for Dungannon R.D.C. J. P. Rush, E., Courthouse, Lisburn. Dep. £3 3s.

**APRIL 27.**

**Esher.**—Road Improvement Works.—At Esher-rd., East Molesey, for U.D.C. S. Dep. £3 3s.

**Ruislip-Northwood.**—Laying.—Of soil and surface water sewers, with manholes and incidental works, at Field End-rd., Eastcote, for U.D.C. H. R. Metcalfe, E. and S., Council Offices, Northwood. Dep. £2 2s.

**Swinton and Pendlebury.**—Making-up.—Several streets, for T.C. Henry Entwisle, B.E. and S.

**Tipton.**—Site Levelling.—Roads and sewers at Moat Farm, Ocker Hill-rd., For T.C. Horace N. Woodard, E. and S. Dep. £2 2s.

# Public Appointments.

**APRIL 23.**

**Dartford.**—Resident Builder Working Foreman. —For City of London Mental Hospital, Stone. Clerk of Visiting Committee, 5, Church-passage, Guildhall, London, E.C.2.

**London.**—Junior Architectural Assistants (Temporary).—For L.C.C. Architect, County Hall, Westminster Bridge, S.E.1.

**APRIL 24.**

***Cambridge.**—Senior Architectural Assistant.—For C.C. Clerk.

**Ealing.** — Architectural Assistant (Temp.) — For T.C. F. J. Forty, B.E. and S.

**Essex.**—Two Senior Assistant Architects (Temporary).—For C.C. J. Stuart, F.R.I.B.A., Chelmsford.

**Essex.**—Two Assistant Architects, Grade III. (Temporary).—For C.C. J. Stuart, F.R.I.B.A., Chelmsford.

**Essex.**—Senior Assistant Quantity Surveyor (Temporary).—For C.C. J. Stuart, F.R.I.B.A., Chelmsford.

**Essex.**—Assistant Quantity Surveyor (Temporary).—For C.C. J. Stuart, F.R.I.B.A., Chelmsford.

**Essex.**—Junior Assistant Quantity Surveyor (Temporary).—For C.C. J. Stuart, F.R.I.B.A., Chelmsford.

**London.**—Architectural Draughtsman, Grade 2. —For Mines Dept. of Miners' Welfare Committee. Under-Secretary for Mines Establishment Branch, Mines Dept., Cromwell House, Dean Stanley-st., S.W.1.

**Norwich.**—Town Planning Assistant.—For T.C. City Engineer.

**Reading.**—Architectural Assistant.—For C.B. T.C.

**APRIL 26.**

***London.**—Assistant (Temp.).—For L.C.C. Chief Engineer (S), County Hall, S.E.1.

**Norwich.** — Architectural Assistant. — For T.C. City Engineer.

**APRIL 27.**

**Dartford.**—Clerk of Works.—For T.C. T.C.

**Fulham.**—Architectural Assistant.—For B.C. T.C.

**London.**—Quantity Surveyors.—For Metropolitan Water Board. Clerk, 173, Rosebery-av, E.C.1.

**APRIL 29.**

***London.**—Assistants.—For L.C.C. Architect, County Hall, S.E.1.

**York.**—Civil Engineer and Surveyor.—For T.C. T.C.

**APRIL 30.**

***Guernsey.**—Draughtsman (Temp.).—For States of Guernsey. "The States' Supervisor."

***London.**—Builder's Labourer.—At School of Building, Ferndale-rd., Brixton, S.W.4. For L.C.C. Education Officer (T.I.), County Hall, S.E.1.

**MAY 3.**

**Manchester.**—Assistant Lecturer in Building.—For College of Technology. Registrar.

**MAY 4.**

***London.**—Assistant Quantity Surveyor.—For Mines Dept. of Miners' Welfare Committee, Under-Secretary for Mines, Establishment Branch, Mine Dept., Cromwell House, Dean Stanley-st., S.W.1.

***Woking.**—Full-time Instructor at Mayford Approved (Home Office) School for Boys.—For L.C.C. Education Officer (S.S.5), County Hall, S.E.1.

**MAY 20.**

**London.**—Cartographer.—For Admiralty. Secretary, Civil Service Commission, Burlington-gdns., W.1.

**MAY 30.**

**London.**—Assistant Examiners in Patent Office. Secretary, Civil Service Commission, Burlington Gardens, W.1.

# CURRENT & PROPOSED BUILDING WORK*

**Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; B.S. for Borough Surveyor; B.E. for Borough Engineer; D.S. for District Surveyor; C. for Clerk; T.C. for Town Clerk; C.E. for County Engineer; C.S. for County Surveyor; S. for Surveyor; E. for Engineer.**

**Bangor (Co. Down).**—New branch for Bank of Ireland, on site of old Town Hall.

**Barnsley.**—T.C. approved:—52 houses, Connaught-st., Strathearn-pl., Real Estates (Doncaster), Ltd., Hallgate, Doncaster.

**Barrow-in-Furness.**—J. Whittaker (Builders), Ltd., Flass-lane, propose to erect 108 houses in Beacon Hill, Flass-lane. Architect, R. J. Skilling, 66, Market-st., Lancaster.

**Bedwellty.**—Council to purchase land at Aberbargoed for Council offices.

**Belfast.**—Plans passed:—68 houses, Rodney-dr., and new street off, and 21 Ebor-st., for F. Mulligan; memorial hall in College Green, for Methodist College Governors; cinema, Upper Newtownards-rd., for M. Curran; pay patients' pavilion for 50 beds, for Board of Management of Royal Victoria Hospital.

**Billingham-on-Tees.** — Sub-committee been appointed by U.D.C. to formulate a scheme for extending Council offices. J. J. Hill, S.

**Bingley.**—The Building Committee of St. Lawrence's Church, Eldwick, proposes Sunday-school. F. Atkinson, architect, Old Bank-chams., Main-st.

**Birtley.** — M.H. requested P.C. to submit amended scheme for open-air swimming bath, at £6,000.

**Blackpool.**—C.B. resolved that application be made to M.H. for sanction to borrowing of £55,750 for purchase of Pembroke estate.—Council resolved that sketch lay-out and density plans, submitted by B.S. from S. A. Howard in connection with land in Bloomfield-rd. be approved.—B.S. been instructed to obtain estimate of cost of decorating fire station, offices in Albert-rd. and Central police station, and also for carrying out of any necessary electric rewiring.—B.S. to prepare specifications of necessary painting and renovations at South Shore and Talbot-rd. police stations and obtain tenders for work. —Plans of Hawes Side school to be proceeded with. —Plans passed:—9 houses, 9 garages, Shaftesbury-av., 18 houses, 17 garages, Devonshire-rd., etc., R. Fielding & Son; rebuild hotel, Preston Old-rd., Burtonwood Brewery, Ltd.; hotel, Red Bank-rd., J. R. F. Hill; 14 boarding houses, Promenade S., Sir L. Parkinson & Co., Ltd.; store, Depot-rd., Corporation; 10 houses, 10 garages, Devonshire-rd., W. Haslam & Son.

**Blaydon.**—M.H. provisionally approved U.D.C.'s £42,000 sewage disposal scheme at Howlands Gill. Engineers are D. Balfour & Sons, 3, St. Nicholas'-bldgs., Newcastle-on-Tyne. No contracts let.

**Bognor Regis.**—Pier Co. to carry out improvements at pier.

**Boreham Wood.**—Herts E.C. to purchase site, near Hillside-av., for Council school.

**Bradford.**—Tenders being invited for additions at Regina Spinning Mills, for Regina Mills Co., Ltd. Architects, T. H. Barker & Son, Market-st.

**Brandon.**—U.D.C. received grant for new sewage disposal scheme, estimated to cost £23,000. J. P. Addison, S.

**Bridgwater.**—British Cellophane, Ltd., proposes factory, at £500.000.

**Cardiff.**—City E. to seek sites for secondary school for western area.

**Carlisle.**—T.C. approved:—38 houses, Percy-rd., J. Laing & Son, Ltd., by S. W. B. Jack; 26 houses and shop, Orton-rd., J. Laing & Son, Ltd.—City Council approved £68,000 on 200 houses for rehousing purposes.

**Caterham and Warlingham.**—U.D.C. approved:—sports pavilion, for Craigmyle Glebe, by Fisher & Trubshawe.

**Chester-le-Street.**—R.D.C. to instal electric lighting in 67 new houses at Burnmoor. M. Wilson, Housing Architect.

**Cottingham.**—John Smith's Brewery Co., Ltd., to erect hotel, "The Broad Highway," corner of Wymersley-rd. and Willerby New-rd.

**Darlington.**—T.C. to proceed with Bridge-st. clearance scheme, involving demolition of 141 tenements.—T.C. approved:—E. Minors, for Housing Committee, 20 houses, Shelley-rd., 18 houses, Thompson-st. West, and 62 houses, Geneva-rd. East.

**Doncaster.**—B.S., 3, Priory-pl., preparing plans for additional staff accommodation at Infectious Diseases Hospital, Balby. Contracts not let.

**Durham.**—R.D.C. instructed H. Pescod, Housing Architect, to prepare plans for 66 houses at New Durham.

**Ealing.**—Plans passed by T.C.:—Hillingdon Estates Co. (architects, Swannell & Sly, Rickmansworth), 52 houses, The Fairway.

**Eastbourne.**—T.C. approved:—Princess Alice Hospital, additions.

**East Dean (Glos.).**—R.D.C. to borrow £10,039 for houses at Buckshaft-rd., Cinderford, and Townsend, Ruardean.

**Easington.**—R.D.C. made five additional clearance orders for demolition of 332 houses at Shotton Colliery (87), Wingate (85), and Haswell Plough (150).

**East Retford.**—R.D.C. approved water supply scheme for northern area, at £68,000.

**Egham.**—U.D.C. to erect further 48 houses, Bond-st. area.

**Ellesmere Port.**—U.D.C. approved bridge over level-crossing, at £32,000.

**Ely.**—R.D.C. have received authority to erect 44 new houses in various parts of district.

**Formby.**—Lancashire E.C. propose senior council school with accommodation for 240 boys and girls. Plans by County Architect, Stephen Wilkinson, F.R.I.B.A., Preston.

**Gateshead.**—T.C. approved:—E. Ward, 10 pairs of semi-detached houses in flats at Wrekenton; D. Forrest & Co., 19 houses at Chowdene estate, Low Fell; Rev. W. A. Dickinson, Catholic elementary school, Carville-st. and Marigold-av., Old Fold; W. E. Hall & Son (Low Fell), Ltd., 22 semi-detached villas at Dryden-rd., Low Fell; committee of Low Fell Congregational Church, Congregational church at Appledore-gdns. and Cromer-av., Low Fell.

**Golborne.**—U.D.C. seeking to borrow £126,191 for sewerage and sewage disposal schemes, Culcheth, Glazebury, Lowton and Kenyon.

**Hampton Wick.**—Council received sanction from M.H. to loan of £6,965 for 12 flats, Newman's cottages site.

**Hawarden.**—Hospital Committee proposing additional accommodation at Pent Robin isolation hospital. Plans by District Surveyor, G. I. Reidford, Council Offices.

**Hebburn.**—M.H. confirmed slum clearance orders involving demolition of 194 houses.

**Houghton-le-Spring.**—R.D.C. received grant for new sewage disposal works, to cost £50,000. D. Balfour & Son, 3, St. Nicholas-bldgs., Newcastle, engineers.

**Huddersfield.**—Abbey & Hanson, 11, Cloth Hall-st., architects for rebuilding Commercial Hotel, Slaithwaite.

**Huyton.**—Lancashire E.C. to acquire site for junior and infants' council school and senior council school, Liverpool-rd., Blue Bell-ln. and Knowsley-ln., Long View Farm housing estate. Plans by Stephen Wilkinson, F.R.I.B.A., County Architect, Preston.

**Icklingham.**—Lord Iveagh proposes to build cottages at Avenue Farm.

**King's Lynn.**—Carnell & White, F. & L.R.I.B.A., Paradise-chams., architects for Sunday-school in London-rd., for King's Lynn Methodist Church. Contracts not let.

**Lancashire.**—E.C. propose school house at Kirkly, Ireleth Grizebech Council School, cost £7?0, and elementary school for 300 scholars in District No. 6 (North Ribble).

**Leigh.**—Libraries Committee proposing central public library.—T.C. propose 115 houses Mather-ln. No. 2 site, at £34,039. Plans by B.S.

**Lichfield.**—Whittington Barracks to be adapted for air defence purposes, at £55,000.

**Littleport.**—Isle of Ely E.C. to purchase site at Black Horse Drive for junior mixed and infants' school.

**Liverpool.**—Rev. J. Foley, St. Monica's, 3, Breeze Hill, Bootle, propose church, Fernhall-rd. Plans by F. X. Velarde, A.R.I.B.A., 3, Abercromby-sq. Contracts not let.—Paton, Calvert & Co., Ltd., Binns-rd., Old Swan, propose factory, Binns-rd., and additions to existing works, Douro-pl. Plans by Gilbert Fraser, F.R.I.B.A., Wellington-bldgs., The Strand.

**London (Deptford).**—B.C. approved:—J. C. Anderson, 81, High-st., S.E.13, addition to building at Molins Machine Co.'s premises, Crooke-rd.


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**London (Fulham).**—B.C. recommend £815 for painting, decoration and alterations required at Town Hall, and that B.S. be instructed to proceed with work.—Application to be made to Electricity Commissioners for sanction to borrow £10,200 for alterations and equipment at Fulham Cross Sub-station and small sub-stations connected therewith.

**London (Greenwich).**—B.C. approved:—houses, Kidbrooke Park-rd.; lay-out of Charlton-ln.

**London (Hackney).**—B.C. approved:—proposed lay-out of the Stamford Hill estate (L.C.C.); public baths and washhouses, Gainsborough-rd., adjoining the premises of the casual wards, Gainsborough-rd.; flats at junction of Castlewood-rd. and Rookwood-rd.

**London (Hammersmith).**—B.C. recommend £242 for number of interior redecoration works at baths and wash-houses, Lime-grove. B.E. to proceed with work.

**London (Lewisham).**—B.C. approved: B.E., Deptford, building at Brockley Cemetery, Ivy-lane, Lewisham; New Ideal Homesteads, Ltd., lay-out of Selworthy-rd. estate, Catford; L. E. Tomkins & Co., mission hall, Mayeswood-rd., Grove Park; Ford & Walton, Queen's-rd., block of flats, garages and swimming-pool at Taymount Court; Manor Estates, Ltd., 111 houses, Manor estates, Bromley-rd.; Elcock & Sutcliffe, extension to 15, Downham-way; Ideal Homesteads, Ltd., 39 houses in Selworthy-rd. and 4 in Winsford-rd.; W. H. Gaze & Sons, additions to Park Hospital, Stainton-rd.; H. Williams Holliday & Partners, additions to "Prince Alfred" p.h.

**London (St. Pancras).**—B.C. received L.C.C. sanction to borrowing of £3,050 for acquisition of site for housing purposes in Highgate-rd.—Plans passed: Building, 84-92, Camden-rd. and 1, 2, 3, Lyme-terr.

**London (Westminster).**—City Council approved: Holltum & Green, alterations, 1, Berkeley-sq.; Potter & Goldsmith, addition, 3, Seamore-pl., to abut on Park-lane.

**Loughborough.**—A. E. King & Co., 19, Baxtergate, architects for nurses' home, Victoria-st., for Loughborough District Nursing Association, 2, de Montford-ter. Cost £4,000. Contracts not let.

**Lowestoft.**—T.C. approved: Marks & Spencer, Ltd., extension to premises, London-rd. North.

**Malling.**—Norcon, Ltd., to establish works, adjoining gravel pit, Snodland-rd., Leybourne.

**Manchester.**—T. Fogarty & Co., 3, Tyson-st., propose 101 houses Woodlands-rd. and Greenhill-rd., Cheetham Hill.—Plans approved by Corporation:—48 houses, Wilton-rd., Herristone-rd., Brynorme-rd. and Solent-av., Crumpsall, W. J. Davies, 7, Royston-av., Whalley Range; 69 houses, Mossfield-rd. and Grindall-av., Moston, Winter Bros., Bolshaw-rd., Handofrth; 52 houses, Rochdale-rd., Collindale-av., Linedale-rd., Edgfield-av. and Elmston-rd., Blackley, G. Hodson, 5, Hilltop, Blackley.

**Melton Mowbray.**—Board of Management of Melton Mowbray War Memorial Hospital, proposing extensions to Institution. Architect, Leslie T. Moore, F.R.I.B.A., 3, Raymond-bldgs., Gray's Inn, London, W.C.1. Cost £9,000.

**Middlesbrough.**—William Younger & Co., brewers, 5, Exchange-pl., received consent of Licensing Justices to erect hotel on Brambles Farm estate, at £8,000.

**Middleton.**—Plans approved by T.C.:—46 semi-detached houses Acresfield-rd. and Hayfield-ln., T Toolan; 38 houses, Uplands and Mount-rd., A. Redfern & Sons.

**Mildenhall.**—R.D.C. to apply to M.H. for sanction to £26,000 for water supply schemes.

**Newcastle-on-Tyne.** — Town Improvement and Streets Committee approved:—84 houses and extension to existing premises of Sylvan Jam Manufacturing Co., Benton-rd.

**Oxford.**—City of Oxford Motor Services, Ltd., to establish bus station at car park and Central school site.

**Peterborough.**—Peterborough Estates, Ltd., to erect 200 houses, off Eastfield-rd., Fletton.

**Rotherham.**—J. Totty, 20, Moorgate-st., architect for extensions to R.D.C. offices, Grove-rd., Moorgate, at £4,000.

**Saltley.**—Plans have been prepared by J. Arnold Crush, F.R.I.B.A., for all-age school which Fr. John Power is about to build for his mission at Church of Our Lady of Rosary and St. Teresa, to cost £25,000.

**Sedgefield.**—R.D.C. to apply for sanction to build 750 more houses. J. W. Stones, S.

**Settle.**—Senior school proposed, to accommodate 240.

**Strabane.**—Technical school and caretaker's residence to be erected by E.C., at £24,000.

**Tamworth.**—R.D.C. approved:—32 houses in pairs, Main-rd., Amington, for Sir Albert Ball (Nottingham), Ltd.

**Wembley.**—U.D.C. prepared five years' programme for works of major improvement of roads and bridges and construction of new roads and bridges.—Pavilion shortly to be erected adjoining courts at Vale Farm.—L. D. Wood submitted plans for sports pavilion on land at the rear of Berkeley-rd., Leybourne-rd., Elmcroft-gdns. and Honeypot-ln., Kingsbury.—Council resolved to recommend that amended elevations submitted by Arnold & Malkinson for houses in Harrowdene-rd. be approved.—Plans passed:—Salmon Estates, Ltd., 112 houses in The Paddocks and 15 in Salmon-st.; Haymills, Ltd., flats, Barn Hill estate; Comben & Wakeling, garage and showroom, The Broadway; Luck, Bennett & Luck, amended lay-out of 5 shops and 10 garages, East-ln.

**West Hartlepool.**—F. Durkin, B.E., prepared lay-out plans for 148 houses and 76 aged people's bungalows on Millbank estate.—T.C. decided to make application to M.H. for sanction to borrow £6,535 for purchase of land for central bus station. Cost £6,000. F. Durkin, B.E.

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* See also List of Contracts open.

*** **In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.**

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| Pit Sand | 7 9 | " " |
| Washed Sand | 8 3 | " " |
| ¾ in. Shingle | 7 3 | " " |
| ¼ in. Broken Brick | 11 3 | " " |
| Pan Breeze | 8 3 | " " |

delivered 2 miles radius Paddington.

## CEMENT.

Best British Portland Cement, Standard Specification, delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable):—

| | £ s. d. |
|---|---|
| 4 ton loads and upwards site ..... Per ton | 2 0 0 |
| 1 ton to 4 tons site | 2 2 0 |
| Alongside Vauxhall in 80-ton lots | 1 16 0 |
| "Ferrocrete" Rapid Hardening Cement:— | |
| 4-ton loads and upwards site | 2 6 0 |
| 1 ton to 4 tons site | 2 8 0 |
| Alongside Vauxhall in 80-ton lots | 2 2 0 |

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

| | |
|---|---|
| "Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site | 3 6 0 |
| "Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable) 1 ton and upwards site | 8 15 0 |
| Super Cement (Waterproof) paper bags free | 3 10 0 |
| Roman Cement | 6 15 0 |
| Parian Cement | 5 15 0 |
| Keene's Cement, White | 5 15 0 |
| " " Pink | 5 10 0 |

## PLASTER.

| | |
|---|---|
| Plaster, Coarse, Pink | 2 12 0 |
| " " White | 2 17 6 |
| " Fine | 5 0 0 |
| Sirapite, Coarse | 3 5 0 |
| " Finish | 3 13 0 |
| Grey Stone Lime | 2 2 0 |
| Chalk Lime | 2 2 0 |
| Best Ground Blue Lias Lime | 1 17 6 |
| Hair ..... per cwt. | 2 2 6 |
| Granite Chippings | 1 12 0 |

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months carr. pd.

Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dep.

## STONE.

| | s. d. |
|---|---|
| BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube | 2 10 |
| BEER STONE—RANDOM BLOCK— Free on rail at Seaton Station, per ft. cube | 2 3 |
| Delivered free on rail Nine Elms, S.R. per ft. cube | 1½ |
| Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra. | |
| PORTLAND STONE— Brown Whitbed, in random blocks of 20ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube | 4 4½ |
| Do. do. delivered on road waggons at above stations, per ft. cube | 4 5½ |
| White basebed, 3d. per ft. cube extra. | |
| NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft. | |
| HOPTON-WOOD STONE— F.O.R. Quarries Wirksworth Derbyshire. | s. d. |
| Random blocks from 10 ft. and over P.ft.cb | 14 0 |
| Sawn two sides | 22 6 |
| Sawn, three or four sides | 27 9 |
| CHILMARK—RANDOM BLOCK— At Nine Elms, per ft. cube | 3 11 |
| YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London. | |
| 6 in. sawn two sides landings to sizes (under 30 ft. super) ..... Per ft. super | 5 6 |
| 6in. rubbed two sides, ditto ..... " | 6 0 |
| 3in. sawn two sides slabs (random sizes) " | 2 3½ |
| 2in. to 2½in. sawn one side slabs (random sizes) " | 1 6½ |
| 1½in. to 2in., ditto ..... " | 1 3½ |
| HARD YORK— Delivered at any Goods Station, London. | |
| Scappled random blocks .... Per ft. cube | 6 3 |
| 6-in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super | 5 1½ |
| 6in. rubbed two sides, ditto ..... " | 6 1½ |
| 4in. sawn two sides slabs (random sizes) " | 3 1½ |
| 3in. ditto ditto " | 2 8 |
| 2in. self-faced random flags .. Per yd. super | 7 6 |

## CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

## SOFT WOOD.

GOOD BUILDING DEAL.

| Inches. | Per stan. | Inches. | Per stan. |
|---|---|---|---|
| 4 × 11 | £23 10 | 3 × 6 | £18 10 |
| 4 × 9 | 22 10 | 3 × 11 | 19 10 |
| 4 × 8 | 21 0 | 2 × 11 | 19 10 |
| 4 × 7 | 19 0 | 3 × 9 | 19 10 |
| 3 × 8 | 17 10 | 2½ × 9 | 19 10 |
| 3 × 7 | 18 0 | 3 × 4½ | 17 10 |
| 2½ × 7 | 18 0 | 3 × 4 | 17 10 |

PLANED BOARDS.

| | | | |
|---|---|---|---|
| 1 × 11 | £22 10 | 1 × 9 | £21 0 |

PLAIN EDGE FLOORING.

| Inches. | per sq. | Inches. | per sq. |
|---|---|---|---|
| ⅝ | 16/- | 1¼ | 25/- |
| ⅞ | 17/- | 1½ | 31/6 |
| 1 | 19/- | | |

TONGUED AND GROOVED FLOORING.

| Inches. | per sq. |
|---|---|
| 1 | 21/- |
| 1¼ | 26/- |
| 1½ | 32/6 |

MATCHING (BEST).

| Inches. | per sq. |
|---|---|
| ⅝ | 16/- |
| ¾ | 18/6 |
| 1 | 22/6 |

| ins. BATTENS | s. d. |
|---|---|
| ¾ × 2 .. per 100 ft. | 2 6 |
| Per bundle | 2 3 |

## HARD WOOD.

1 INCH AND UP THICK.

| Average price for prime quality. | £ s. d. |
|---|---|
| Dry Austrian Wainscot, per ft. cube | 0 15 0 |
| Dry American and/or Japanese Figured Oak, per ft. cube | 0 12 0 |
| Dry American and/or Japanese plain Oak, per ft. cube | 0 10 0 |
| Dry sq. edged Honduras Mahogany, per ft. cube | 0 14 0 |
| Dry log-cut Honduras Mahogany, per ft. cube | 0 16 0 |
| Dry Cuba Mahogany, per ft. cube | 1 1 0 |
| Dry Teak, per ft. cube | 0 14 0 |
| Dry American Whitewood, per ft. cube | 0 10 0 |
| Best Scotch Glue, per cwt. | 3 0 0 |
| Liquid Glue, per cwt. | 4 7 0 to 5 10 0 |


**HUDDERSFIELD Building Society**

Ample funds are available to assist in house purchase. Builders with sound schemes of development are invited to consult with the Society.

Branches throughout the Country.

Write for the Folder "Mortgage Facilities" to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2, or from the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

**WHEN YOU INVEST—A HOUSE IS BEST!**


## SLATES.

First quality slates from Bangor or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| 24 by 12 | 29 15 0 | 18 by 10 | 15 12 6 |
| 22 by 12 | 25 0 0 | 18 by 9 | 13 15 0 |
| 22 by 11 | 22 10 0 | 16 by 10 | 13 10 0 |
| 20 by 12 | 22 0 0 | 16 by 8 | 10 7 6 |
| 20 by 10 | 19 7 6 | | |

## TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons.

| | Per 1,000 f.o.r. London. |
|---|---|
| Best machine-made tiles from Broseley or Staffordshire district | £4 7 6 |
| ditto hand-made ditto | 5 0 6 |
| Ornamental ditto | 5 8 6 |
| Hip and valley tiles (per dozen) Hand-made | 0 9 6 |
| Hip and valley tiles (per dozen) Machine-made | 0 9 6 |

## METALS.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON— R.S. Joists, cut and fitted | £11 10 0 | | |
| Plain Compound Girders | 13 10 0 | | |
| " " Stanchions | 16 0 0 | | |
| In Roof Work | 18 10 0 | | |
| MILD STEEL ROUNDS.—To London Station, per ton. Diameter. | | Diameter. | |
| ¼ in. | 12 0 0 | ⅝ in. to ½ in. | 10 15 0 |
| ⅜ in. | 11 0 0 | ⅝ in. to 2⅞ in. | 10 10 0 |

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

| | Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in. % | Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in. % | Standard Fittings Sizes ⅛in. to 6in. % | Standard Flanges Sizes ⅛ in. to 6in. % |
|---|---|---|---|---|
| Gas | 65 | 52½ | 57½ | 70 |
| Water | 61½ | 48½ | 52½ | 65 |
| Steam | 57½ | 45 | 47½ | 60 |
| Galv. gas. | 52½ | 40 | 47½ | 60 |
| Galv. water | 47½ | 35 | 42½ | 55 |
| Galv.steam | 42½ | 30 | 37½ | 50 |

C.I. HALF-ROUND GUTTERS—London Price ex Works

| Per yd. in 6 ft. lengths. | Gutters. | Angles and Nozzles. | Stop Ends. |
|---|---|---|---|
| 3 in. | 1/5½ | 1/1½ | 4½d. |
| 3½ in. | 1/6¾ | 1/3 | 5½d. |
| 4 in. | 1/6¾ | 1/4½ | 6½d. |
| 4½ in. | 1/8 | 1/6½ | 9½d. |
| 5 in. | 1/10½ | 1/8¾ | 10d. |

O.G. GUTTERS.

| | | | |
|---|---|---|---|
| 3 in. | 1/7¾ | 1/5½ | 7d. |
| 3½ in. | 1/9½ | 1/5½ | 7½d. |
| 4 in. | 1/11 | 1/6½ | 8½d. |
| 4½ in. | 2/0 | 1/9½ | 9½d. |
| 5 in. | 2/4½ | 2/0¾ | 11½d. |

RAIN WATER PIPES, &c.

| Per yd. in 6 fts. | Pipe, | Bends, stock angles, | Branches, stock angles. |
|---|---|---|---|
| 2 in. | 2/2½ | 1/4½ | 2/0 |
| 2½ in. | 2/3½ | 1/6½ | 2/4½ |
| 3 in. | 2/9¾ | 1/11 | 2/10½ |
| 3½ in. | 3/3½ | 2/3½ | 3/3½ |
| 4 in. | 3/9 | 2/9 | 4/0½ |

Less 20 per cent. trade discount.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock.

| | Pipe, | Bends, stock angles, | Branches, stock angles. |
|---|---|---|---|
| | s. d. | s. d. | s. d. |
| 2 in. per yd. in 6 fts. | 2 9¾ | 2 0 | 2 5½ |
| 2½ in. " | 3 2 | 2 2½ | 3 0½ |
| 3 in. " | 3 6 | 2 5½ | 3 7½ |
| 3½ in. " | 3 9½ | 3 0½ | 4 2½ |
| 4 in. " | 4 2½ | 3 4½ | 4 10½ |

L.C.C. COATED DRAIN PIPES—London Prices ex Stock.

| | Pipe, | Bends, stock angles, | Branches, stock angles. |
|---|---|---|---|
| | s. d. | s. d. | s. d. |
| 3 in. per yd. in 9ft. lengths | 3 4½ | 4 3 | 7 0 |
| | cwt. qr. lbs. | | |
| 4 in. " | 1 1 20 | 5 1 | 5 0 | 8 9 |
| 5 in. " | 1 2 22 | 6 6 | 8 9 | 13 6 |
| 6 in. " | 2 0 6 | 7 6 | 10 3 | 18 0 |

Gaskin for jointing 41/- per cwt.

| IRON— | Per ton in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| Common bars | 10 0 0 | to | 10 10 0 |
| Staffordshire Crown Bars— Good merchant quality | 10 10 0 | to | 11 0 0 |
| Staffordshire Marked Bars | 14 0 0 | .. | 15 0 0 |
| Mild Steel Bars | 9 0 0 | .. | 10 0 0 |
| Steel Bars, Ferro-Concrete quality, basis price | 8 10 0 | .. | 9 0 0 |
| Hoop iron, basis price | 11 0 0 | .. | 12 0 0 |
| " Galvanised | 27 10 0 | .. | 28 10 0 |

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

## PRICES CURRENT OF MATERIALS—(*contd.*).

Per ton in London.

| IRON— | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Soft Steel Sheets, Black— | | | | | | |
| Ordinary sizes, to 20 g. .... | 11 | 0 | 0 | 11 | 10 | 0 |
| ,, ,, ,, 24 g. .... | 12 | 0 | 0 | 13 | 0 | 0 |
| ,, ,, ,, 26 g. .... | 14 | 0 | 0 | 15 | 0 | 0 |
| Sheets Flat Best Soft Steel, C.R. and C.A. quality— | | | | | | |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. .. | 14 | 0 | 0 | 15 | 0 | 0 |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g. ..... | 15 | 0 | 0 | 16 | 0 | 0 |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g..... | 17 | 10 | 0 | 18 | 10 | 0 |
| No. 1 quality £4 per ton extra. | | | | | | |
| Flat and Galvanised Corrugated Sheets— | | | | | | |
| Ordinary sizes, 6 ft. to 9 ft. to 20 g. ..... | 13 | 10 | 0 | 15 | 0 | 0 |
| Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g... | 15 | 10 | 0 | 16 | 10 | |
| Ordinary sizes, 6 ft. to 9 ft. to 26 g. ..... | 16 | 10 | 0 | 18 | 0 | |
| Sheets, Galvanised, Flat, Best quality— | | | | | | |
| Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker ..... | 14 | 10 | 0 | 16 | 10 | 0 |
| Best Soft Steel Sheets, 22 g. and 24 g. ..... | 15 | 0 | 0 | 17 | 0 | 0 |
| Best Soft Steel Sheets, 26 g. ..... | 16 | 10 | 0 | 18 | 0 | 0 |
| Cut Nails, 3 in. to 6 in. .... | 15 | 10 | 0 | 17 | 0 | 0 |
| (Under 3 in. usual trade extras.) | | | | | | |

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

## COPPER.

| | | s. | d. |
|---|---|---|---|
| Seamless Copper tubes (basis) ..... | per lb. | 0 | 9 |
| Strong sheet ..... | ,, | 0 | 10 |
| Thin ..... | ,, | 0 | 11 |
| Copper nails ..... | ,, | 1 | 0 |
| Copper wire ..... | ,, | 0 | 11 |

## PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. | |
|---|---|---|---|---|---|---|
| 29/- | 45/- | 76/- | 153/- | 246/- | 510/- | per doz. |

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. | |
|---|---|---|---|---|---|---|
| 41/6 | 62/- | 92/- | 174/- | 300/- | 588/- | per doz. |

RIVER PATTERN SCREW DOWN MAIN FERRULES.

| ½ in. | ¾ in. | 1 in. | |
|---|---|---|---|
| 39/- | 60/- | 116/6 | per doz. |

CAPS AND SCREWS.

| 1¼ in. | 1½ in. | 2 in. | 3 in. | 3½ in. | 4 in. | |
|---|---|---|---|---|---|---|
| 7/6 | 10/- | 14/- | 23/- | 30/- | 42/- | per doz. |

DOUBLE NUT BOILER SCREWS.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. | |
|---|---|---|---|---|---|---|
| 7/6 | 11/- | 17/- | 29/- | 36/- | 63/- | per doz. |

BRASS SLEEVES.

| 1¼ in. | 2 in. | 3 in. | 3½ in. | 4 in. | |
|---|---|---|---|---|---|
| 10/- | 12/- | 20/- | 24/- | 31/- | per doz. |

NEW RIVER PATTERN CROYDON BALL VALVES S.F.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | |
|---|---|---|---|---|---|
| 35/- | 56/- | 98/- | 162/- | 228/- | per doz. |

DRAWN LEAD P. & S. TRAPS WITH GLASS CLEANING SCREW.

| | 1¼ in. | 1½ in. | 2 in. | 3 in. | |
|---|---|---|---|---|---|
| 8 lbs. P. traps .... | 33/- | 41/- | 56/- | 101/- | per doz. |
| 8 lbs. S. traps .... | 35/- | 45/- | 66/- | 126/- | per doz. |

TIN.—English Ingots, 2/5 per lb. SOLDER.—Plumbers' 1/-, Tinmen's, 1/2, Blowpipe, 1/3 per lb.

## LEAD, &c.

| (Delivered in London.) | £ | s. | d. |
|---|---|---|---|
| LEAD.—Sheet, English, 4 lb. and up..... | 19 | 0 | 0 |
| Pipe in coils ..... | 18 | 10 | 0 |
| Soil pipe..... | 24 | 15 | 0 |
| Compo pipe ..... | 26 | 0 | 0 |

NOTE.—Country delivery, 20/- per ton extra lots under 3 cwt. 4/- per cwt. extra, and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- cwt. extra.

Old lead, ex London area, at Mills..... per ton £10 15 0

## PAINTS, &c.

| | | £ | s. | d |
|---|---|---|---|---|
| Raw Linseed Oil, in pipes .....per gallon | | 0 | 2 | 5 |
| ,, ,, ,, in barrels .... ,, | | 0 | 2 | 7 |
| ,, ,, ,, in drums .... ,, | | 0 | 2 | 9 |
| Boiled ,, ,, in barrels .... ,, | | 0 | 2 | 10 |
| ,, ,, ,, in drums .... ,, | | 0 | 3 | 0 |
| Turpentine, in barrels ..... | ,, | 0 | 4 | 3 |
| ,, in drums (10 galls.).. | ,, | 0 | 4 | 5 |
| Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.) | | 43 | 0 | 5 |
| Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt. | | | | |

GENUINE WHITE LEAD PAINT.

| | £ | s. | d. |
|---|---|---|---|
| "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered | 61 | 0 | 0 |
| Red Lead, Dry (packages extra) ....per ton | 31 | 0 | 0 |
| Best Linseed Oil Putty ..... per cwt. | 0 | 13 | 6 |
| Size. XD quality ..... fkn. | 0 | 3 | 0 |

## VARNISHES, &c.

| | | Per gallon | | |
|---|---|---|---|---|
| Oak Varnish .....Outside | | 0 | 14 | 0 |
| Fine Do. ..... | Do. | 0 | 16 | 0 |
| Fine Copal ..... | Do. | 0 | 18 | 0 |
| Pale Copal ..... | Do. | 1 | 0 | 0 |
| Pale Opal Carriage ..... | Do. | 1 | 4 | 0 |
| Best Do. ..... | Do. | 1 | 12 | 0 |
| Floor Varnish .....Inside | | 0 | 18 | 0 |
| Fine Pale Paper ..... | Do. | 0 | 18 | 0 |
| Fine Copal Cabinet ..... | Do. | 1 | 2 | 0 |
| Fine Copal Flatting ..... | Do. | 1 | 0 | 0 |
| Hard Drying Oak..... | Do. | 0 | 18 | 0 |
| Fine Hard Drying Oak ..... | Do. | 0 | 19 | 6 |
| Fine Copal Varnish ..... | Do. | 1 | 0 | 6 |
| Pale Do. ..... | Do. | 1 | 12 | 0 |
| Best Do. ..... | Do. | 1 | 2 | 6 |
| Best Japan Gold Size ..... | | 0 | 12 | 6 |
| Best Black Japan..... | | 0 | 10 | 0 |
| Oak and Mahogany Stain (water) ..... | | 0 | 12 | 0 |
| Brunswick Black ..... | | 0 | 7 | 6 |
| Berlin Black ..... | | 0 | 14 | 0 |
| Knotting (patent)..... | | 0 | 15 | 0 |
| French and Brush Polish ..... | | 0 | 12 | 0 |
| Liquid Dryers in Terebene ..... | | 0 | 9 | 0 |
| Cuirass Black Enamel ..... | | 0 | 7 | 0 |

## GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

| | per ft. | | per ft. |
|---|---|---|---|
| 15 oz. fourths .. | 2⅝d. | 32 oz. fourths ..... | 6½d. |
| 15 ,, thirds .... | 2⅝d. | 32 ,, thirds ..... | 8½d. |
| 21 ,, fourths .. | 3½d. | Obscured Sheet, 15 oz. | 3d. |
| 21 ,, thirds .... | 3½d. | ,, ,, 21 ,, | 4½d. |
| 26 ,, fourths .. | 4½d. | Fluted, 15 oz. 6½d.,21 oz. 9d. | |
| 26 ,, thirds .... | 5½d. | Em'lld, 15 oz. 4½d.,21 oz. 5½d. | |

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

| | Per ft. |
|---|---|
| Rolled plate ¼ in. ..... | 4½d. |
| Rough rolled ⅜ in. ..... | 5½d. |
| Rough rolled ½ in. ..... | 5½d. |
| Figured, Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White.... | 5½d. |
| Do. tinted ..... | 8d. |
| Rolled Sheet ..... | 5d. |
| White Rolled Cathedral ..... | 5d. |
| Tinted Do. ..... | 7½d. |

Cast plate is same price as rough rolled.

| "VITA" GLASS. | Per ft s. | d |
|---|---|---|
| Clearsheet—not exceeding 1 foot ..... | 1 | 0 |
| Do. do. 2 feet ..... | 1 | 3 |
| Do. over 2 feet ..... | 1 | 9 |
| Polished plate—not exceeding 1 foot ..... | 1 | 6 |
| Do. do. 2 feet ..... | 3 | 0 |
| Cathedral—not exceeding 1 foot ..... | 1 | 0 |
| Do. larger sizes ..... | 1 | 6 |
| Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet ..... | 1 | 0 |
| 3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide..... | 2 | 9 |

# BUILDING TRADE WAGES IN SCOTLAND*

Following are grade rates authorised by the Scottish N.J.C. for the Building Industry. Painters by ruling of the Scottish National Painters' and Decorators' Joint Council, have from January 1 new rates. Grade A towns, 1/6 per hour; Grade B, 1/4; Aberdeen has a special rate of 1/5½. The new rate for Plasterers has been fixed at 1s. 6½d. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

| Grade Classification.... | A | A[1] | A[2] | A[3] | B | B[1] | B[2] | B[3] |
|---|---|---|---|---|---|---|---|---|
| Craftsmen .... .... | 1/6 | 1/5½ | 1/5 | 1/4½ | 1/4 | 1/3½ | 1/3 | 1/2½ |
| Labourers .... .... | 1/1½ | 1/1¼ | 1/0¾ | 1/0½ | 1/0 | /11¾ | /11¼ | /11 |

| | | | | | |
|---|---|---|---|---|---|
| Aberdeen .....A | Dundee .....A | Hawick .....A[2] | Perth .....A |
| Airdrie.....A | Dunfermline ...A | Helensburgh ...A | Perthshire .....A[2] |
| Alexandria .....A | Dunoon .....A | Inverness .....B | Peterhead .....A[2] |
| Arbroath.....A | East Lothian...A | Kilmarnock...A | Renfrewshire .....A |
| Ayrshire .....A | Edinburgh .....A | KincardineshireA[2] | Rothesay .....A |
| Bathgate.....A | Falkirk .....A | Kinross-shire ...A | Roxburghshire ...A[2] |
| Bo'ness .....A | Forfarshire ...A[2] | Kirkcaldy .....A | St. Andrews .....A |
| Broughty Ferry ...A | Fort William B | Lanarkshire ...A | Selkirkshire .....A |
| Clackmannanshire...A | Galashiels .....A[2] | Leith .....A | Stirling .....A |
| Coatbridge .....A | Glasgow .....A | Midlothian .....A | Stirlingshire, WestA |
| Dumbartonshire ...A | Greenock.....A | Motherwell ...A | West Lothian ...A |
| Dumfries.....A[2] | Hamilton .....A | Peeblesshire ...A[2] | Wishaw .....A |
| Dumfriesshire.....A[2] | | | |

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 755.

# THE SCOTTISH BUILDER

## NEW BUILDINGS

ABERDEEN.—HOUSES.—Plans are in hand for 32 houses and other offices to be erected on the east side of the Hardgate. Mr. G. Watt, architect, 214, Union-street, Aberdeen.

AYRSHIRE.—HOUSES.—Plans are to be prepared for new police houses to be built in various parts of the county. Mr. William Reid, architect, Wellington-square, Ayr.

BUTE.—SCHOOL.—The E.C. have agreed to submit plans for a new school adjoining Rothesay Academy, and alterations on the Academy buildings, to the C.C.

CASTLE DOUGLAS.—HOUSING.—The T.C. has decided to proceed with plans for a housing scheme without a State subsidy.

COWDENBEATH. — GYMNASIUM. — The Finance Committee of the Fife C.C. has approved of the provision of a gymnasium at Foulford School, at £1,600.

CUMNOCK.—POOL.—The T.C. has decided to construct an open-air swimming pool on the banks of the River Lugar, at £3,000.

CUPAR.—EXTENSION.—At the annual meeting of subscribers to the Adamson Hospital it was intimated that Mr. J. B. Crichton, Luthriebank, had gifted £4,000 for the extension scheme, and that the legacy of Mr. John Honeyman, Cupar, to be applied towards the work, amounted to £1,819. The scheme is to cost about £8,000.

DUNDEE.—BUILDINGS.—Plans and sections of the following new buildings, etc., have been lodged at the Office of the City Engineer:—Baldovan-road — bungalows for Downie and Dye, architect, J. Clunie, 5, Kirkton-road; Collingwood-crescent — bungalows for R. Samson, architect, T. L. Gray, 2, India-buildings; Cross-row—houses for the T.C.; Euclid-street—alterations for the Trustees of Dundee Savings Bank, architect, J. Findlay, 33, Albert-square; 91, High-street, Lochee—alterations for C. Stevens, architect, T. L. Gray, 2, India-buildings; 3/7, King's-road—alterations for D. and J. Thomson, architect, G. Jamieson, 20, Whitehall-street; Kingsway—bungalow for J. Aitchison, architect, T. L. Gray, 2, India-buildings; Pitalpin-street—alterations for Spalding and Valentine, architects, Mills and Shepherd, 9, South Tay-street; 97, Princes-street—alterations for trustees of James Macintosh, architect, George Jamieson, 20, Whitehall-street.

DUNFERMLINE. — SCHOOL. — Plans have been approved for a new High School for Dunfermline for the Fife E.C.

EAST LOTHIAN.—HOUSES.—The C.C. have decided to erect 172 houses.

EDINBURGH.—HOUSING.—It is understood that a portion of the War Department land at Colinton is to be handed over to the T.C. for housing purposes in that area.

GLASGOW. — BUILDING. — The Dean of Guild Court has passed the following:—Glasgow Royal Maternity and Women's Hospital—milk-house and refrigerator-house; Shettleston Co-operative Society, Ltd.—alterations to premises at Shettleston-road; Scottish Co-operative Wholesale Society, Ltd.—extension to garage and cartwrights' shop at Scotland-street; Royal Bank of Scotland—alterations to property at Bardowie-street and Saracen-street.

HADDINGTON.—HOUSING.—The T.C. has instructed the architect, Mr. W. W. Reid, to prepare a lay-out plan for the 50 houses.

KIRKCALDY.—FIRE STATION.—The schedules for the proposed new fire station has now been issued. The site of the Steel Pipe Co., now disused,, has been chosen.

LANARKSHIRE.—HOUSES.—The C.C. are to build 32 improvement scheme houses for the New Logans area. The Council are also to erect 40 improvement scheme houses at Calderbank, near Bellshill, and 68 houses in the Chapelhall area.

PITTENWEEM.—HOUSES.—Plans submitted by Mr. Cunningham, architect, St. Andrews, to the Town Council for the erection of 56 houses at University Park, were approved.

# CURRENT PRICES FOR BUILDING WORK IN LONDON*

## EXCAVATOR.

| | | s. | d. |
|---|---|---|---|
| Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep | per yard cube | 8 | 0 |
| Add if in clay | ,, ,, | 1 | 0 |
| Add for every additional depth of 6 ft. | ,, ,, | 0 | 6 |
| Planking and strutting to trenches | per foot super | 0 | 3 |
| Do. to sides of excavation, including shoring | ,, ,, | 1 | 0 |

## CONCRETOR.

| | | | |
|---|---|---|---|
| Portland cement concrete in foundations 1 to 6 | per yard cube | 24 | 0 |
| Add if in underpinning in short lengths | ,, ,, | 5 | 0 |
| Add if in floors 6 in. thick | ,, ,, | 2 | 0 |
| Add if in beams | ,, ,, | 2 | 6 |
| Add if aggregate 1 : 2 : 4 | ,, ,, | 8 | 0 |
| Add for hoisting not exceeding 10 ft. beyond the first 10 ft. | ,, ,, | 1 | 6 |

## BRICKLAYER.

| | | £ | s. | d. |
|---|---|---|---|---|
| Reduced brickwork in lime mortar and Fletton bricks | per rod | 26 | 0 | 0 |
| Add if in stocks | ,, | 6 | 0 | 0 |
| Add if in Staffordshire blues | ,, | 22 | 0 | 0 |
| Add if in Portland cement and sand | ,, | 1 | 5 | 0 |

FACINGS.

| | | | | |
|---|---|---|---|---|
| Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks | per ft. super | 0 | 0 | 1¼ |

POINTING.

| | | | | |
|---|---|---|---|---|
| Neat flat struck or weathered joint | ,, ,, | 0 | 0 | 3 |

ARCHES.

| | | | | |
|---|---|---|---|---|
| Extra only to the price of ordinary brickwork :— | | | | |
| Fair external in half brick rings | ,, ,, | 0 | 0 | 10 |
| Axed in stocks | ,, ,, | 0 | 0 | 9 |
| Rubbed and gauged jointed in putty camber or segmental | ,, ,, | 0 | 5 | 9 |

SUNDRIES.

| | | | | |
|---|---|---|---|---|
| Damp course in double course of slates breaking joint and bedded in Portland cement | ,, ,, | 0 | 0 | 11 |
| Setting ordinary register grates and stoves | each | 1 | 0 | 0 |
| Setting kitchener, including forming flues, &c., with all necessary fire bricks | ,, | 4 | 15 | 0 |

## ASPHALTER.

| | | s. | d. |
|---|---|---|---|
| Half-inch horizontal damp course | per yard super | 4 | 6 |
| Three-quarter-inch vertical damp course | ,, ,, | 9 | 6 |
| Three-quarter-inch on flats in two thicknesses | ,, ,, | 6 | 0 |
| Angle fillet | per foot run | 0 | 3 |
| Skirting and fillet 6 in. high | ,, ,, | 1 | 0 |

## MASON.

| | | | | |
|---|---|---|---|---|
| York stone templates fixed | per foot cube | 12 | 9 | |
| York stone sills fixed | ,, ,, | 22 | 0 | |
| Bath stone and all labour fixed | ,, ,, | 10 | 6 | |
| Beer stone and all labour fixed | ,, ,, | 15 | 0 | |
| Portland stone fixed | ,, ,, | 15 | 6 | |
| Chilmark stone fixed complete | ,, ,, | 16 | 6 | |

## SLATER.

| | | | | |
|---|---|---|---|---|
| Welsh 16 in. × 8 in. 3 in. lap. including nails | per square | 70 | 0 | |
| Do. 20 in. × 10 in. Do. Do. | ,, | 71 | 6 | |
| Do. 24 in. × 12 in. Do. Do. | ,, | 73 | 6 | |

## CARPENTER AND JOINER.

| | | | | |
|---|---|---|---|---|
| Fir framed in plates | per foot cube | 3 | 6 | |
| Do. joists | ,, ,, | 4 | 0 | |
| Do. roofs, floors and partitions | ,, ,, | 4 | 6 | |
| Do. trusses | ,, ,, | 6 | 9 | |

| | ¾″ | 1″ | 1¼″ | 2″ |
|---|---|---|---|---|
| Deal rough close boarding per sq. | 30/- | 35/- | 43/- | 70/- |

| | | | | |
|---|---|---|---|---|
| Flat centering for concrete floor, including struts or hangers ,, | | 50 | 0 | |
| Do. to beams | per ft. sup. | 0 | 8 | |
| Centre for arches | ,, | 1 | 6 | |
| Gutter boards and bearers | ,, | 1 | 0 | |

FLOORING.

| | ¾″ | 1″ | 1¼″ | 1½″ |
|---|---|---|---|---|
| Deal-edges shot per sq. | — | 38/- | 45/- | 52/- |
| Do. tongued and grooved ,, | — | 43/- | 50/- | 58/- |
| Do. matchings ,, | 40/- | 45/- | — | — |
| Moulded skirtings, including backings and grounds per ft. sup. | 1/4 | 1/7 | 1/9 | 2/3 |

SASHES AND FRAMES.

| | | s. | d. |
|---|---|---|---|
| One-and-a-half moulded sashes or casements | per foot super | 1 | 9 |
| Two Do. Do. Do. | ,, ,, | 2 | 0 |
| Add for fitting and fixing | ,, ,, | 0 | 2 |
| Deal cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights, average size | | 3 | 3 |

DOORS.

| | 1½″ | 1¾″ | 2″ |
|---|---|---|---|
| Two-panel square framed per ft. sup. | 2/1 | 2/3 | 2/5 |
| Four-panel Do. ,, | 2/4 | 2/6 | 2/9 |
| Two-panel moulded both sides ,, | 2/6 | 2/9 | 2/11 |
| Four-panel Do. Do. ,, | 2/9 | 2/11 | 3/2 |

## CARPENTER AND JOINER—continued.

FRAMES.

| | | s. | d. |
|---|---|---|---|
| Deal wrot moulded and rebated | per foot cube | 12 | 0 |

| | 1″ | 1¼″ | 1½″ |
|---|---|---|---|
| Plain deal jamb linings framed per ft. sup. | 1/7 | 1/8 | 1/11 |
| Deal shelves and bearers ,, | 1/2 | 1/4 | 1/7 |
| Add if cross-tongued ,, | 2d. | 2d. | 2d. |

STAIRCASES.

| | 1″ | 1¼″ | 1½″ | 2″ | 2½″ |
|---|---|---|---|---|---|
| Deal treads and risers in and including rough brackets | 2/0 | 2/3 | 2/8 | — | — |
| Deal strings wrot on both sides and framed | 1/8 | 2/- | 2/2 | 2/8 | — |

| | | s. | d. |
|---|---|---|---|
| Housings for steps and risers | each | 0 | 11 |
| Deal balusters, 1 in. x 1½ in. | per ft. run | 0 | 9 |
| Mahogany handrail, average 3 in. x 3 in. | ,, ,, | 5 | 6 |
| Add if ramped | ,, ,, | 11 | 0 |
| Add if wreathed | ,, ,, | 22 | 0 |

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

| | | | |
|---|---|---|---|
| 6 in. barrel bolts | 8½d. | Rim locks | 2/- |
| Sash fasteners | 11½d. | Mortice locks | 4/6 |
| Casement fasteners | 1/5 | Patent spring hinges and letting into floor and making good | 19/- |
| Casement stays | 1/2 | | |
| Cupboard locks | 1/5 | | |

## FOUNDER AND SMITH.

| | | s. | d. |
|---|---|---|---|
| Rolled steel joists | per cwt. | 15 | 0 |
| Plain compound girders | ,, | 18 | 0 |
| Do. stanchions | ,, | 20 | 9 |
| In roofwork | ,, | 26 | 6 |

## RAIN-WATER GOODS.

| | 3″ | 4″ | 5″ | 6″ |
|---|---|---|---|---|
| Half-round plain rebated joints ft. run | 1/- | 1/1 | 1/3 | 1/6 |
| Ogee Do. Do. ,, | 1/2 | 1/3 | 1/9 | 2/3 |
| Rain-water pipes with ears ,, | 1/3 | 1/10 | — | — |
| Extra for shoes and bends each | 2/9 | 3/11 | — | — |
| Do. stopped ends ,, | 1/1 | 1/4 | 1/9 | 2/6 |
| Do. nozzles for inlets ,, | 2/2 | 2/7 | 3/7 | 4/- |

## PLUMBER.

| | | s. | d. |
|---|---|---|---|
| Milled lead and laying in flashings and gutters | per cwt. | 32 | 0 |
| Do. do. flats ,, | | 31 | 0 |
| Extra labour and solder in coated cesspools | each | 6 | 0 |
| Welt joint | per ft. run | 0 | 4 |
| Soldered seam | ,, ,, | 1 | 2 |
| Copper nailing | ,, ,, | 0 | 3 |

| | ½″ | ¾″ | 1″ | 1½″ | 2″ | 4″ |
|---|---|---|---|---|---|---|
| Drawn lead waste per ft. run | 10½ | 1/2 | 1/5 | 2/1 | 2/5 | — |
| Do. service... ,, | 1/1 | 1/6 | 1/9 | 2/8 | — | — |
| Do. soil ,, | — | — | — | — | — | 5/- |
| Bends in lead pipe each | — | — | — | — | 2/- | 5/6 |
| Soldered stop ends ,, | 0/7 | 0/11 | 1/3 | 2/- | 2/6 | — |
| Red lead joints ,, | 0/9 | 0/10 | 1/1 | 1/7 | 1/10 | 3/6 |
| Wiped soldered joints ,, | 2/- | 2/6 | 2/9 | 3/5 | 4/3 | 6/- |
| Lead traps and cleaning screws ,, | — | — | — | 10/- | 13/- | — |
| Bib cocks and joints ,, | 6/- | 9/- | 13/- | — | — | — |
| Stop cocks and joints ,, | 10/6 | 12/6 | 17/6 | 50/- | — | — |

## PLASTERER.

| | | s. | d. |
|---|---|---|---|
| Render, float and set in lime and hair | per yard sup. | 2 | 0 |
| Do. Do. Sirapite | ,, ,, | 2 | 3 |
| Do. Do. Keen's | ,, ,, | 3 | 0 |
| Add saw lathing | ,, ,, | 1 | 4 |
| Add metal lathing | ,, ,, | 2 | 4 |
| (Not including hangers or runners, etc., for suspended ceilings.) | | | |
| Portland cement screed | ,, ,, | 1 | 7 |
| Do. plain face | ,, ,, | 3 | 3 |
| Mouldings in plaster | per 1 girth | 0 | 1½ |
| One-and-a-half granolithic pavings | per yard sup. | 4 | 6 |

## GLAZIER.

| | | s. | d. |
|---|---|---|---|
| 21-oz. sheet plain | per foot sup. | 0 | 6½ |
| 26-oz. Do. | ,, ,, | 0 | 7¾ |
| Obscured sheet | ,, ,, | 0 | 8 |
| ⅛-in. rolled plate | ,, ,, | 0 | 9 |
| ¼-in. rough rolled or cast plate | ,, ,, | 0 | 10 |
| ¼-in. wired cast plate | ,, ,, | 1 | 1 |

## PAINTER.

| | | s. | d. |
|---|---|---|---|
| Preparing and distempering, 2 coats | per yard sup. | 0 | 7½ |
| Knotting and priming | ,, ,, | 0 | 7 |
| Plain painting, 1 coat | ,, ,, | 0 | 9 |
| Do. 2 coats | ,, ,, | 1 | 2 |
| Do. 3 coats | ,, ,, | 1 | 9 |
| Do. 4 coats | ,, ,, | 2 | 4 |
| Graining | ,, ,, | 2 | 3 |
| Varnishing twice | ,, ,, | 1 | 9 |
| Sizing | ,, ,, | 0 | 3 |
| Flatting | ,, ,, | 0 | 7 |
| Enamel | ,, ,, | 1 | 1 |
| Wax polishing | per foot sup. | 0 | 6 |
| French polishing | ,, ,, | 1 | 2 |
| Preparing for and hanging paper | per piece 2/- to | 4/- | |

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1¼ should be added for Employers' Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

# NEW CINEMAS

AYLESBURY.—Messrs. Leslie H. Kemp and Tasker, A.R.I.B.A., 10, Gt. James-street, Bedford-row, W.C.1, are preparing plans for the erection of a cinema to seat 1,500 at Aylesbury, Bucks. No contracts placed.

BELFAST.—Plans for a cinema to seat 2,500 are being prepared by Messrs. Leslie H. Kemp and Tasker, A.R.I.B.A., 10, Great James-street, W.C.1.

BIRMINGHAM. — Paramount Co., 104, Oxford-street, W.1, are, it is stated, to offer to purchase the site of King Edward's School, New-street, for a cinema. Provisional plans are by the company's architects, Messrs. Frank Verity and Beverley, FF.R.I.B.A., 7, Sackville-street, W.1.

BOLTON.—Messrs. Belshaw and Gomersall, Imperial Buildings, Oxford-road, Manchester, are preparing plans for alterations at the "Hippodrome," Moses Gate, Bolton.

CHEAM.—Messrs. Leslie H. Kemp and Tasker, A.R.I.B.A., 10, Great James-street, W.C.1, are preparing plans for a cinema in Cheam, to seat 1,250 persons.

COLCHESTER.—Associated British Cinemas, 30, Golden-square, W.1, have acquired the "Playhouse," and will reconstruct it. Mr. W. Glen, F.R.I.A.S., is architect.

DOWNPATRICK, IRELAND.—Tenders are invited for the erection of a cinema at Market-street, for Mr. T. Breen. Particulars from Mr. H. L. Taggart, architect, Irish-street. Deposit £2 2s. Tenders by April 27.

HORNCHURCH.—The D. J. James Circuit, Cinema House, Oxford-street, W.1, propose a 3,000-seater cinema on the Costain estate, Elm Park, Hornchurch. Plans are by Messrs. Leslie Kemp and Tasker, A.R.I.B.A., 10, Gt. James-street, W.C.1.

ILKESTON.—The New Theatre is to be extensively reconstructed as a cinema for Ilkeston Cinema Co. Plans are by Mr. R. W. Cooper, A.R.I.B.A., Queen's-chambers, King-street, Nottingham.

LEEDS.—Messrs. E. Todd and Sons, Town-street, Beeston, builders, propose a cinema at Hetton-road and Gipton-road, Harehills. The scheme is at present the subject of a Ministry of Health inquiry.

MAIDSTONE.—As stated in our last issue, the Southan Morris Circuit, Ltd., Empire Cinema, Bury Park-road, Luton, propose to reconstruct the Palace, the Pavilion, and the Central cinemas, Maidstone. Plans for all will be prepared by Messrs. Leslie H. Kemp and Tasker, A.R.I.B.A., 10, Great James-street, W.C.1, and contracts placed shortly.

ORPINGTON.—Mr. A. Spencer May, the "Commodore" Cinema, Orpington, is to reconstruct the Palace Cinema in High-street. The architects are Messrs. Leslie H. Kemp and Tasker, A.R.I.B.A., 10, Great James-street, W.1.

ROMFORD.—A proposal is on hand to establish a news theatre at Quadrangle-arcade. Plans will be prepared by Messrs. Fitt and Prior-Hale, L.R.I.B.A., 58, Theobald's-road, W.C.1.

SALFORD.—Messrs. Belshaw and Gomersall, Imperial Buildings, Oxford-road, Manchester, are preparing plans for rebuilding the "Langworthy" Cinema, Seedley.

SALFORD. — The "Empire" Cinema, Broughton, is to be altered to plans by Messrs. Belshaw and Gomersall, Imperial Buildings, Oxford-road, Manchester.

WALTON-ON-THAMES.—Plans for reconstructing a cinema, after fire, are being prepared by Messrs. Leslie H. Kemp and Tasker, A.R.I.B.A., 10, Great James-street, W.C.1.

WARRINGTON.—Plans for erecting a theatre at Warrington are being prepared by Messrs. Belshaw and Gomersall, Imperial Buildings, Oxford-road, Manchester.

WEST BROMWICH.—A contract for the erection of a 2,000-capacity cinema at Carter's Green, for West Bromwich Cinemas, Ltd., has been placed with Messrs. J. R. Deacon, Lombard-street, Lichfield. Plans are by Mr. Harry W. Weedon, A.R.I.B.A., 84, Colmore-row, Birmingham.

# TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Government Departments*.

**Abbeyleix.**—Ten cottages at Rathmoyle, for the Laoghis Board of Health :—
*J. Baggot, Abbeyleix ..... £2,450

**Abergele and Pensarn.**—50 houses at Berthtopic and Llyn Morfa, for the U.D.C. Mr. R. D. Roberts, surveyor :—

| | |
|---|---|
| A. Walker, Towyn | £20,328 |
| P. Griffiths, Llandudno | 19,223 |
| A. Edwards, Wrexham | 17,853 |
| A. Hapsgood | 17,755 |
| F. Tyldesley, Llandudno | 16,095 |
| Penrhyn Building Co., Prestatyn | 15,016 |
| Whitley Bros., Wrexham | 14,944 |
| T. B. Gorst & Sons, Abergele | 14,895 |
| F. Roberts, Wrexham | 14,662 |
| W. H. Jones & Sons, Abergele | 13,344 |
| A. Buckle, Rhyl | 13,100 |
| †R. J. Jones & Son, Rhuddlan | 12,380 |

**Barnsley.**—174 houses at Mount Vernon, for the T.C. Mr. H. Taylor, Borough Surveyor :—
‡Direct labour ..... £50,044

**Barnstaple.**—Conveniences at Woolacombe, for the R.D.C. Mr. H. Hargreaves, architect, The Red House, Castle-street :—
*J. Dennis & Son, Knowle, Braunton ... £690

**Belfast.**—Extension of glass and paint warehouse in King-street, for Messrs. Simpson & Mitchell, Ltd. :—
*I. Copeland & Sons, Ltd., Belfast.

**Belfast.**—Additional power houses at Harbour power station, for the Corporation Electricity Department :—
*Courtenay & Co., Ltd., Belfast ..... £23,000

**Biggleswade.**—Six houses at Clifton and four at Stotfold, for the R.D.C. Mr. F. C. Levitt, architect :—

| | |
|---|---|
| Clifton— | |
| *G. Dawson, Clifton-road, Shefford... | £1,947 10 |
| Stotfold— | |
| *Seymour Bros. & Tookey, Stotfold. Beds ..... | 4,731 0 |

**Blackpool.**—Various works, for the C.B. :—
*H. Joyce & Sons, Ltd., extensions to bus garage.
*Herbert Yates, for plumbing work in connection with the water supply to the tram shed, Rigby-road.
*H. Peers, worksheds at the highway depot, Bispham.
*H. H. Vickers & Son, Blackpool, additional cubicles at the open air bath.
*H. Joyce & Sons, Ltd., timber and general store at the Bispham Highway depot.
*Shaws Glazed Brick Co., Darwen, supply of terra cotta at the open-air bath.

DON'T TENDER UNSUCCESSFULLY

SECURE CONTRACTS WITH

BEITH & SKEAN

THE STEEL SCAFFOLDING CO., LTD.

80, Regent Street, London, W.1.

Telephone: Regent 1157

**Blyth.**—Extensions to the Blyth Roman Catholic School :—
*G. Towers, Union Street, Blyth.

**Bo'ness.**—32 houses at Barrell Braes, for the T.C. :—

| | |
|---|---|
| *Brick and concrete*— | |
| *Ramsay Bros. ..... | £2,285 |
| *Joiner and glazier*— | |
| *G. Downie & Sons ..... | 1,820 |

**Bootle.**—Conveniences and children's shelter at the Miller's Bridge children's playground, for the T.C. :—
*The Leyland Construction Co., Leyland ..... £1,692

**Bootle.**—Railings, gates, walls, entrance steps and keeper's tool house at the Miller's Bridge children's playground, for the T.C. :—
*The Leyland Construction Co., Leyland ..... £1,410

**Brentwood.**—Swimming bath, for the U.D.C. :—
*J. A. Perris, London, W.3 ..... £7,948

**Burntisland.**—New swimming pool, for the T.C. Messrs. F. A. MacDonald & Partners, engineers, 139, Wellington-street, Glasgow :—
*Grays Ferro-Concrete Co., Ltd., Douglas-street, Glasgow.

**Bury.**—Extensions at the Florence Nightingale Hospital, Ramsbottom, for the Bury and District Joint Hospital Board :—
*Builders*—*Chesters & Co., Bury.
*Plumbing*—*G. Brown & Sons, Tottington, near Bury.
*Painting*—*Lomax & Ormerod, Tottington, near Bury.

**Cosford.**—Four houses at Aldham and two at Lavenham, for the R.D.C. :—
*F. B. Fayers, Cockfield ..... £1,858 5

**Doncaster.**—Pavilion on the Town Fields, for the Young Men's Christian Association, by the Corporation. Mr. R. E. Ford, Estates Surveyor, 3, Priory-place :—
*W. Rusling, Doncaster.
(Estimated cost £750.)

**Dundee.**—New commercial bank premises, for the Commercial Bank of Scotland. Mr. James McCallum, architect, 14, George-street, Edinburgh :—
*Grays Ferro-Concrete Co., Ltd., Douglas-street, Glasgow.

**Dundee.**—12 two-apartment houses and 36 three-apartment houses in Hospital-street, for the T.C.—

| | |
|---|---|
| *Mason*— | |
| *D. K. Symington, Dundee ..... | £6,814 0 0 |
| *Joiner*— | |
| *J. L. Bruce, Dundee ..... | 2,631 0 0 |
| *Lath*— | |
| *Slimman & Robertson, Dundee | 384 19 0 |
| *Slater and roughcast*— | |
| *Wm. Brand & Son, Dundee ..... | 620 7 1 |
| *Plumber*— | |
| *P. Marshall, Dundee ..... | 1,389 17 2 |
| *Plasterer*— | |
| *Davidson & Hill, Dundee ..... | 894 0 0 |
| *Electric lighting*— | |
| *D. J. Macdonald, Ltd., Dundee ... | 291 2 11 |
| *Grates*— | |
| *M. D. Miller, Dundee ..... | 214 10 0 |

**Durham.**—Institution for mental defectives at School, Aycliffe, for the C.C. :—
*Sir Lindsay Parkinson & Co., Ltd., Blackpool ..... £98,500

**Eastham.**—Erection of Council school, for the Cheshire E.C. :—
*E. B. J. Gould, Ltd. ..... £9,543

**Edinburgh.**—New building in Charlotte-street, for Messrs. McVittie & Guest, Ltd., Princes-street. Messrs. J. D. Cairn & Ford, architects, 73, George-street :—
*Excavation, brick and mason* — *A. & J. Cameron, Edinburgh.
*Steel construction*—*Redpath, Brown & Co., Ltd., Edinburgh.

**Gateshead.**—Houses at Teams, for the T.C. :—
*John Clark & Son (New Seaham), Ltd., New Seaham ..... £68,792
(In lieu of previous tender.)

**Glasgow.**—Various works in schools, for the T.C. Mr. William McCaig, F.R.I.B.A., architect, 129, Bath-street :—

| | |
|---|---|
| *Heating installation, Crosshill school*— | |
| *J. L. Saunders, Glasgow ..... | £5,496 18 8 |
| *Ironmongery works, St. Charles school extension*— | |
| *Fletcher, Parker & McAlpine, Glasgow ..... | 415 10 8 |
| *Holmlee school playing shed*— | |
| *J. Gibson & Co., Ltd., Glasgow... | 277 5 4 |
| *Reinforced concrete, Petershill school, Springburn*— | |
| *J. McGlashan & Sons, Glasgow... | 320 14 11 |

**Glasgow.**—New premises in St. Enoch's-square, for the T.C. Mr. Thomas Somers, architect, Office of Public Works :—

| | | | |
|---|---|---|---|
| *Plumber work and sanitary fittings—* | | | |
| *H. Twaddell & Son, Ltd., Glasgow | £213 | 0 | 0 |
| *Joinery, carpentry and ironmongery—* | | | |
| *J. Cochrane, Ltd., Glasgow | 1,150 | 9 | 2 |
| *Plaster—* | | | |
| *A. McKellar, Townhead | 233 | 8 | 0 |

**Glasgow.**—Reconstruction and additions at Stobhill Hospital, for the T.C. Mr. Thomas Somers, architect, Office of Public Works :—

| | | | |
|---|---|---|---|
| *Excavation, brick and mason—* | | | |
| *Wilson Bros., Glasgow | £2,156 | 10 | 9 |
| *Joinery, carpentry and ironmongery—* | | | |
| *R. Anderson & Co., Ltd., Glasgow | 2,158 | 4 | 9 |
| *Slater—* | | | |
| *T. Stewart & Co., Ltd., Calton | 284 | 5 | 3 |
| *Plumber work and sanitary fixtures, etc.—* | | | |
| *A. Low & Co., Ltd., Partick | 836 | 18 | 6 |
| *Plaster—* | | | |
| *A. MacKellar, Townhead | 385 | 15 | 11 |
| *Tile and terrazzo—* | | | |
| *Toffolo, Jackson & Co., Glasgow | 402 | 2 | 3 |
| *Heating installation and fixtures—* | | | |
| *G. N. Haden & Co., Ltd., Glasgow | 758 | 8 | 7 |
| *Painting—* | | | |
| *A. J. Campbell & Co., Yoker | 490 | 0 | 1 |

**Hinckley.**—Offices, for the Hinckley and South Leicestershire Permanent Building Society, Castle-street. Mr. E. H. Crump, architect, Barclays Bank-chambers :—

*A. Russell & Sons. Ltd., Hinckley ... £3,976

**Keith.**—Six blocks of two three-apartment houses, for the T.C. :—

*Mason work—*
*C. Webster & Son, Keith (five blocks in Moss-street and Ballock-road).
*C. Cruickshank & Sons, Keith (one block in Wellington-terrace).

*Carpenters—*
*J. Beattie (one block in Wellington-terrace).
*G. A. Hay, Turriff (five blocks).

*Plasterer*—*G. Hume & Sons, Keith.

*Plumbers—*
*Angus Joss & Son, Keith (two blocks).
*John Murdoch, Keith (four blocks).

*Painter*—*R. G. Mitchell.

*Grates*—*A. Currie, Keith.

The cost of the blocks at 47, Moss-street and Bridge-street amounted to £335 6s. 1d.; at 47, Moss-street and Balloch-road, £312 4s. 10d.; and 6 and 8, Balloch-road, £349 4s. 2d.; and Wellington-terrace, £370.

**Kenmay.**—New bridge over the River Don, for the Aberdeenshire County Road Board. Messrs. F. A. MacDonald & Partners, engineers, 139, Wellington-street, Glasgow :—

*W. Tawse, Ltd., Rabislaw, Angusfield, Aberdeen ..... £7,339 8 9

**Larbert.**—New hospital at the Royal Scottish Institution Colony. Mr. James Millar, architect, 15, Blytheswood-square, Glasgow. Messrs. Danskin & Purdie, measurers, 241, West George-street, Glasgow :—

*Excavation, brick and mason*—*Law & Campbell, Glasgow.
*Joinery, carpentry and ironmongery*—*W. MacPherson, Ltd., Stirling.
*Plaster*—*J. K. Miller, Ltd., Falkirk.
*Steel casements, etc.*—*Crittall Manufacturing Co., Ltd., Glasgow.
*Glazing*—*Daniel O'May, Ltd., Falkirk.
*Electrical engineering and installation*—*Claud Hamilton, Hillhead.
*Slater*—*J. D. Smith & Son, Stirling.
*Terrazzo and allied works*—*Toffolo, Jackson & Co., Glasgow.
*Lentile work*—*Rowan & Bowden, Glasgow.
*Plumber work and sanitary fixtures* — *W. Anderson & Co., Ltd., Glasgow.

**Liverpool.**—New school for St. James, Marsh-lane, Bootle, for the Very Rev. J. O'Brien, D.C.O., Chestnut-grove, Marsh-lane, Bootle. Mr. A. Gilbertson, L.R.I.B.A., architect, 15, Tithebarn-street :—

*Steelwork*—*T. James & Co., Liverpool.
*Roofing*—*Ruberoid Co., Ltd., London.
*Electric light*—*Lambton & Hobster, Anfield.
*Sanitary ware*—*Rowe Bros. & Co., Ltd., Liverpool.
*Asphalter*—*J. & J. Gilbertson, Crosby.
*Stonework*—*Concrete Unit Co., Ltd., Manchester.
(Estimated cost, £16,000 to £17,000.)

**Llandilo.**—12 houses, with road and sewerage works, at Mountain-road, Brynamman, for the R.D.C. :—

*J. H. Bevan, Ammanford ..... £4,000

**Llangollen.**—24 houses at Tir Dwn site, Queen-street, for the U.D.C. Mr. E. Lovah, surveyor and architect :—

*Rice Jones & Son, Llangollen ..... £6,366

**London.**—Redecoration of 749 houses on the Charlton and Charlton Park estates, for the Greenwich B.C. :—

*Direct Labour ..... £6,802

**Lochbar.**—32 houses and other offices at Lochbar housing site. Mr. William Reid, architect, Wellington-square, Ayr :—

*Excavation, brick and mason*—*Palmer Bros., Kilwinning.
*Plumber work and sanitary fixtures, etc.*—*M. Maxwell, Kilmarnock.
*Plaster*—*D. McAuslin & Son, Stevenson.
*Electrical fittings and installation*—*D. Geddes, Beith.
*Joinery, carpentry and ironmongery*—*C. Wark & Son, Irvine.
*Slater work and roughcasting, etc.*—*A. Ballantyne, Ayr.
*Gates and fences*—*W. Prentice, Larkhall.
*Painter*—*McLean & Co., Glasgow.

**London.**—Tenders accepted by H.M.O.W. for the week ended April 11 :—

Hatfield Post Office and Telephone Exchange—erection—J. Honour & Son, Ltd., Tring.
Bush House, South West Wing—electric wiring—A. Watson & Dundas, Thornwood Works, Partick, Glasgow.
Bristol Station Sorting Office—foundation work—Spackman & Sons, Hunt-street, Swindon.
Table tops—Papworth Industries, Papworth.
St. Albans Branch Post Office—erection—J. Dennis, 58, Victoria-street, St. Albans.
National Physical Laboratory, Teddington—heating apparatus installation at Photometry building—Heath & Co., 28, Bath-road, Chiswick, W.4.
Crumlin Employment Exchange—erection—Tucker Bros., Ltd., 181/183, Broadway, Cardiff.
Aylesbury Head Post Office—alterations—Fleet & Roberts, Ltd., 33, New-street, Aylesbury.
Plan presses—Vickers-Armstrong, Ltd., Dartford Works, Powder Mill-lane, Dartford.
Wareham Post Office—erection—E. E. Boughton, Lytchett Matravers.

**London.**—The following works contracts were placed by the War Office during the week ended April 11 :—

Aldershot—alterations to Churchill House—J. Chuter, Farnham.
Lichfield—periodical painting—A. Bagnall & Sons, Ltd., Shipley.
Artificers' work at North Queensferry, Inchgarvie and Kinghorn; Dunbar and Berwick-on-Tweed; and Glencorse—A. A. Stuart & Sons, Ltd., Glasgow. Perth—P. Graham & Sons, Perth. Catterick—Geo. Dougill & Sons, Darlington. Hilsea—A. R. West, Purbrook. Trowbridge—F. H. Biddiscombe, Trowbridge.
Biggin Hill—extension to laboratory—F. R. Hipperson & Son, Ltd., London, E.C.
Sussex—provision of camp structures for Territorial Army camps—F. R. Hipperson & Son, Ltd., London, E.C.2.
Plymouth—barrack blocks—F. J. Stanbury, Plymouth.

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**London.**—Electrical installations at the 92 maisonettes on the Southwold-road estate, for the Hackney B.C. :—

| | | | |
|---|---|---|---|
| W. F. Hill | £368 | 10 | 0 |
| Hackney Borough Council, Electricity Department | 352 | 5 | 0 |
| A. R. Camidge & Co., Ltd. | 350 | 0 | 0 |
| Linzell, Dickinson & Co. | 325 | 7 | 0 |
| T. A. Harris | 301 | 0 | 0 |
| J. H. Golding | 300 | 0 | 0 |
| A. Gordemer | 288 | 0 | 0 |
| H. Ferguson & Co. | 277 | 6 | 9 |
| *W. Dennison & Son | 268 | 8 | 0 |

**London.**—Sub-station work, for the Hammersmith B.C. :—

| | Four new sub-stations. | Extension of three existing sub-stations. |
|---|---|---|
| Wm. Walkerdine, Ltd. | £1,870 0 0 | £735 0 0 |
| N. Green & Co., Ltd. | 1,861 0 0 | 761 0 0 |
| Fredk. Coyle & Co., Ltd. | 1,797 14 0 | 708 15 0 |
| *Wm. Lowe & Son, Ltd., 190, Castelnau, Barnes, S.W. | 1,570 0 0 | 675 0 0 |

**London.**—Various work, for the St. Pancras B.C. :—

Cleansing and redecoration works to be carried out at the Council's estates for a period of twelve months—

| | | | |
|---|---|---|---|
| *J. H. & W. Heal— | | | |
| (*a*) Brookfield estate | £976 | 17 | 6 |
| (*b*) Prospect-terrace and Flaxman-terrace | 717 | 18 | 0 |
| (*c*) Somers Town estate | 509 | 19 | 6 |
| (*d*) Una House | 242 | 15 | 0 |
| (*e*) Goldington-buildings | 134 | 2 | 0 |

Redecorations and repairs to the St. Pancras and Islington Joint Church and the St. Pancras Nonconformist Chapel at the Cemetery—

| | | | |
|---|---|---|---|
| Marchant, Hirst & Co. | £368 | 0 | 0 |
| Whitby's, Ltd. | 271 | 10 | 0 |
| W. G. Berry & Son | 243 | 0 | 0 |
| *F. C. Stockman, Ltd. | 212 | 0 | 0 |
| Wallis and Stanley | 188 | 0 | 0 |

**London.**—Passenger lift for the city cleansing superintendent's flat at 160, Buckingham Palace-road, for the Westminster City Council :—

| | | Alternative. |
|---|---|---|
| Express Lift Co., Ltd. | £675 8 0 | £714 8 0 |
| J. & E. Hall, Ltd. | 624 8 0 | 670 8 0 |
| Waygood Otis, Ltd. | 620 8 0 | 660 8 0 |
| Aldous & Campbell, Ltd. | 608 8 0 | 653 8 0 |
| Marryat & Scott, Ltd. | *557 7 0 | 601 7 0 |

**London.**—Repairs and redecorations at 19 and 21, Mill-road, Lewisham, for the Lewisham B.C. :—

| | | | |
|---|---|---|---|
| A. T. Peyton | £171 | 11 | 0 |
| S. T. Stevens & Son | 158 | 19 | 0 |
| Burke, Collins & Co., Ltd. | 153 | 19 | 6 |
| R. Cabell | 152 | 12 | 6 |
| E. C. Christmas | 142 | 0 | 0 |
| R. A. Blake & Son | 138 | 5 | 0 |
| Walker, Clinging & Co. | 137 | 12 | 6 |
| *Borough Surveyor | 120 | 0 | 0 |

**Middleton.**—Reconstruction of Slattocks Bridge on the Rochdale-road A.664, for the Lancashire C.C. Mr. Peter Schofield, County Surveyor and Bridge-master, Preston :—

*J. M. Firth & Sons, Todmorden.

**Monmouth.**—40 houses in Rockfield-road, for the T.C. :—

‡D. J. Rees, Cardiff ..... £10,480

**Morecambe and Heysham.**—Rebuilding and extensions of the King's Arms Hotel, for Messrs. W. Tong & Sons, Ltd., brewers, Mealhouse-lane, Bolton. Messrs. T. E. Smith & Sons, architects, Central-chambers, Bolton :—

*W. Huddleston, Morecambe.

**North Shields.**—Additions to Collingwood infants' school, for the E.C. Messrs. F. R. N. Haswell & Sons, architects, 77, Tyne-street :—

*Rigby & Appleton, North Shields.
(In lieu of tender withdrawn.)

**Penrith.**—Extension of the regional waterworks from Aira Beck on Ullswater, for the R.D.C. :—

*R. Baillie, Pencartland, East Lothian £34,317

**Penryn.**—12 flats at Tremough, for the T.C. Mr. C. R. Corfield, architect :—

| | |
|---|---|
| P. Williams & Sons | £5,580 |
| J. Williams & Co. (Cornwall, Ltd.) | 4,550 |
| W. Smith & Sons, Ltd. | 4,440 |
| E. Thomas | 4,368 |
| J. Curtis & Son | 3,696 |

**Peterborough.**—Swimming pool, for the Corporation :—

*W. J. Simms, Sons & Cooke, Ltd. £20,947 10

**Pitlochry.**—Branch bank, for the Commercial Bank of Scotland. Mr. James McCallum, architect, 14, George -street, Edinburgh :—

*Grays Ferro-Concrete Co., Ltd., Douglas-street, Glasgow.

**Plymouth.**—Extensions to the factory, for the Globe Wholesale Upholstering Co., Devonshire-lane. Messrs. Vanstone & Taylor, architects :—

*A. Carkeek & Son, Plymouth.

**Plymouth.**—Extensions to the ballroom at the Duke of Cornwall Hotel, for Mr. Charles Hockley. Messrs. Vanstone & Taylor, architects :—

*A. Carkeek & Son.

**Portrane.**—Eight houses, for the Grangegorman Mental Hospital Committee:—

*Halligan & Kinsella, Portrane ..... £2,850

**Ramsey.**—Painting of 46 houses in The Avenue, for the U.D.C.:—

†Gilding & Son ..... £133 16 6

**Rothesay.**—80 houses on the Ballochguy site. Mr. Andrew McKinlay, architect, Castle-street. Mr. John Baird, measurer, West George Street, Glasgow:—

*Excavation, brick and mason*—*A. A. Stuart & Son, Ltd., Glasgow.
*Plumber work and sanitary*—*W. Weir & Co., Ltd., Glasgow.
*Joinery, carpentry and ironmongery*—*Lawson & Co. (Govan), Ltd., Govan.
*Slater*—*A. Dunn, Bellshill.
*Glazier*—*W. Purdon & Co., Ltd., Glasgow.

**Rutherglen.**—New church, halls and residence in Mill-street, for the Congregational Church of Rutherglen:—

*Stellnac, 57, Oswald-street, Glasgow.

**South Kesteven.**—8 houses at Thurlby, for the R.D.C.:—

*Harwood Bros. ..... £2,143

**Southend-on-Sea.**—Work at the old Victoria Hospital premises, for the E.C.:—

*Water heating installation*—
*Watkin Heating Co. ..... £928 5
*Electrical installation*—
*W. H. Squire ..... 500 10

**Stotfold.**—Remaining repairs to the outside fabric of the church and the windows, for the Parochial Church Council:—

*S. Foster, Ltd., Kempston ..... £206

**Tipperary.**—124 houses in Cashel-road, for the Board of Health:—

*Duggan Bros., Templemore ..... £32,221

**Tuam.**—90 houses at Tubberjarlath, for the Roscommon Board of Health:—

*Hession Bros., Roscommon ... £26,725 8 4

**Wolverhampton.**—Installation of circulating hot water systems, for the T.C.:—

124 "E" type houses, Low Hill—
*E. Jones, Son & Collins, Wolverhampton ..... per house £8 7 3
82 non-parlour houses, Deans-road—
*Manley & Regulus, Ltd., Wolverhampton ..... per house 8 8 0
40 non-parlour houses, Coronation-road—
*Manley & Regulus, Ltd., Wolverhampton ..... per house 9 10 0
30 "E" type houses, Low Hill—
*Manley & Regulus, Ltd., Wolverhampton ..... per house 8 15 0

**Yeovil.**—129 houses on the Westfield estate, for the T.C.:—

*Potter & Co., Taunton ..... £39,880


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